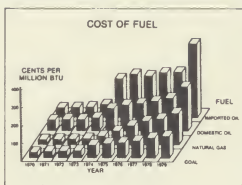
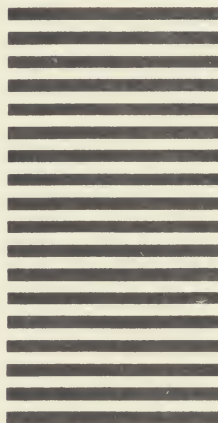


Abt
Computer
Graphics
Corporation





NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 40479 CAMBRIDGE, MA

POSTAGE WILL BE PAID BY ADDRESSEE

Abt Computer Graphics Corporation
55 Wheeler Street
Cambridge, Massachusetts 02138

Please send me more information about **Abt Computer Graphics** systems.

I am interested in:

- | | | |
|---|--|---|
| <input type="checkbox"/> Business Graphics | <input type="checkbox"/> Time Sharing | <input type="checkbox"/> Zip Code Mapping |
| <input type="checkbox"/> Business Mapping | <input type="checkbox"/> Data Bases | <input type="checkbox"/> Sales Analysis/Mapping |
| <input type="checkbox"/> Territory Monitoring & Control | <input type="checkbox"/> Graphics Services | <input type="checkbox"/> Site Location Services |

Name: _____

Title: _____

Organization: _____

Address: _____

Telephone: _____

My current computer system is: _____

We currently use graphics: ☐ YES ☐ NO

Graphics Devices: _____

Comments: _____

The image features a minimalist design on a light gray background. On the left, four horizontal lines in green, yellow, red, and blue are stacked. These lines transition into a large, colorful geometric shape on the right side of the page. This shape is composed of several overlapping triangles and polygons in the same color palette (green, yellow, red, blue), creating a dynamic, abstract composition. The overall aesthetic is clean and modern, typical of mid-20th-century graphic design.

Abt Computer Graphics Corporation
55 Wheeler St., Cambridge, MA 02138
(617) 661-2400

Abt Computer Graphics Corporation

A Full Service Visual Information Firm

"Not only does computer graphics enable managers to see in one picture what they might otherwise have to glean from a stack of computer printouts, it also presents that material in a form that is easily grasped. In addition, computer graphics aids decision making because it presents trends and deviations accurately and clearly, permitting the user to discover the answers to 'what if' questions at various stages in a project."

Harvard Business Review, January-February, 1980



Abt Computer Graphics Corporation helps managers achieve faster and clearer access to information.

Our products and services condense stacks of printout and reports into a few computer-drawn graphs, maps, and charts.

☐ We provide powerful but easy-to-use computer graphics software operated on your own computer. Our programs work on a simple, question-and-answer basis; non-programmers can use these programs with ease.

☐ We can install a complete computer graphics system at your site, advise you on your needs, acquire computer graphics hardware for you, and train your staff to use it.

☐ We can supply the geographic and business data you need for computer maps and charts. We also offer statistical services to help you analyze your management data.

☐ We can produce finished graphs, maps, or charts directly for you through our Graphics Bureau. In as little as 48 hours you can have the management graphics you need for analysis or presentation.

Computer Graphics Improves Management

Linking Abt Computer Graphics technology to management data dramatically increases decision making speed, accuracy, and productivity.

COMPUTER GRAPHICS CAN:

IDENTIFY . .

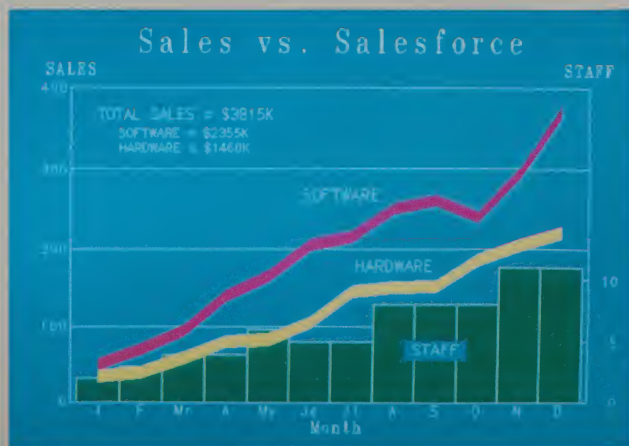
Trends, relationships, and variance from goals will not be overlooked. A picture is worth thousands of numbers.

CLARIFY . . .

The meaning of management information emerges clearly in pictures. Management by exception is easier when problems are highlighted graphically.

AND COMMUNICATE . . .

Management graphics educate and persuade. Visual information analysis saves time and money.



FOR EXECUTIVE INFORMATION SYSTEMS

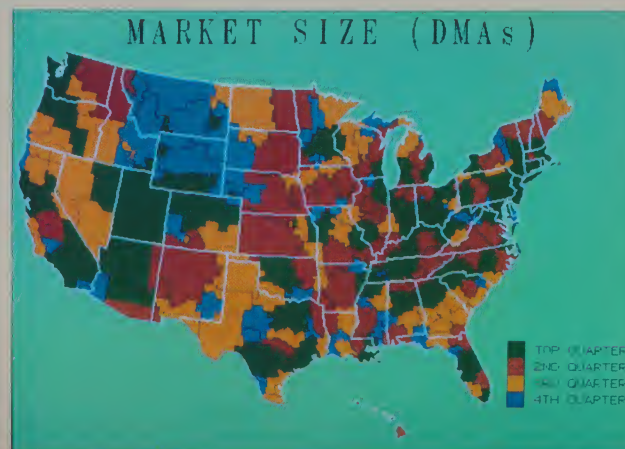
Abt maps and graphs aid managers in organizing, planning, and evaluating performance. Management graphics produce better information at lower cost. Graphics dramatically communicate the results of complex financial analyses.

FOR MARKETING AND SALES

Abt graphics help target promising markets, design sales territories, and track sales performance. Market demographics can be understood at a glance.

FOR ADVERTISING AND PROMOTION

Abt computer graphics show who advertising will reach, how often, and with what impact. We map market demographics at national, state, county, SMSA, ADI, DMA, SAMI, and ZIP levels.



FOR FACILITIES LOCATION AND MANAGEMENT

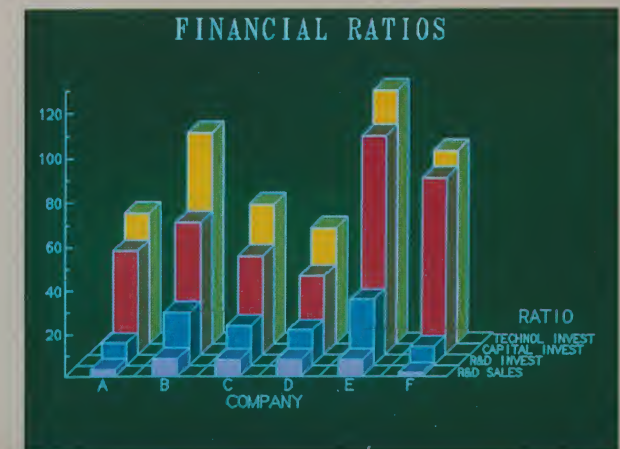
All the data needed to decide where to locate industrial or commercial facilities can be displayed on our computer-drawn maps. Manufacturing and project management applications are also supported.

FOR PUBLIC SERVICE MANAGEMENT

Abt graphics systems help plan and manage public services: education, employment, health care and hospitals, housing, public safety, transportation and recreation. We also offer legislative information systems.

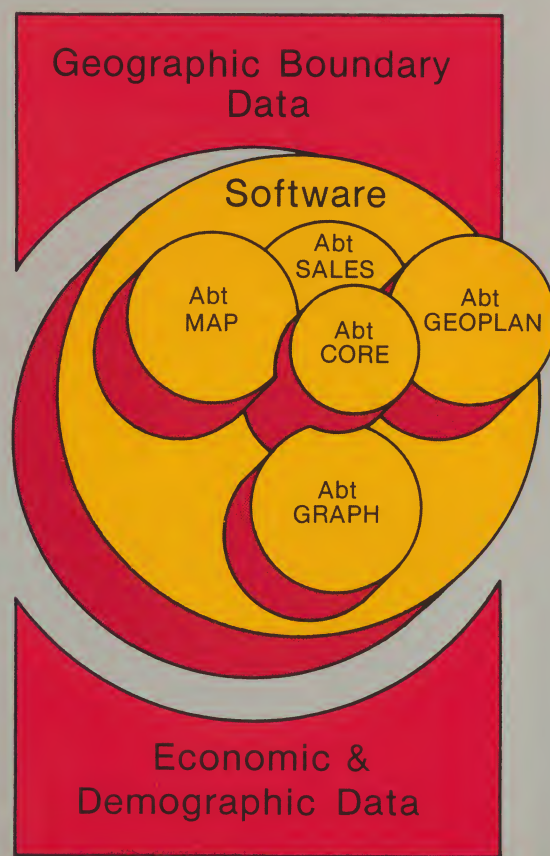
FOR BASIC AND APPLIED RESEARCH

Abt graphics software can be used with many scientific and statistical computing packages, for crosstabulation, time series, multivariate, or cluster analysis.



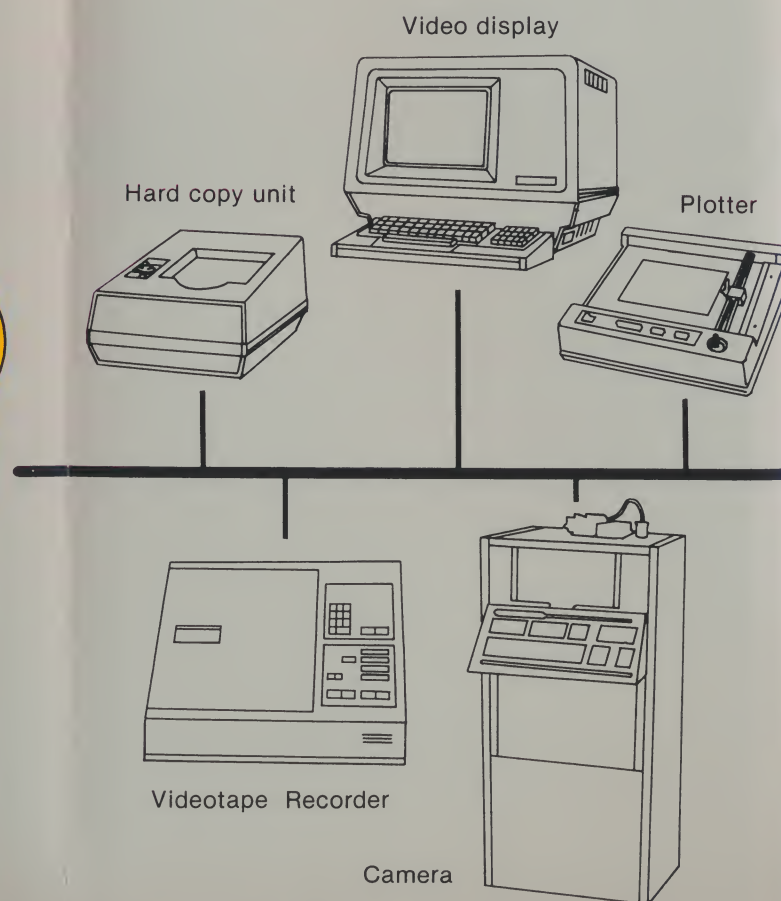
Software Products and Data

Abt computer graphics software produces maps, graphs, and charts on your own computer. Our software is made for non-programmers to operate and is interactive. You see the pictures emerge as you make them. We also offer geographic boundary data for computer mapping and all kinds of demographic, economic, and business data.



System Installation

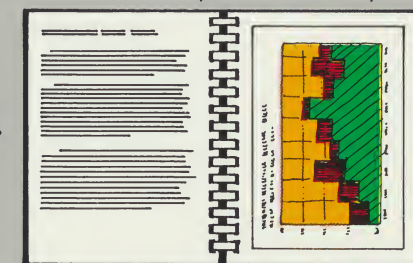
We can help you select the computer graphics equipment needed for a complete system. We can also install the system and train your staff to use it. Our graphics software works on many host computers and a wide range of graphics output devices.



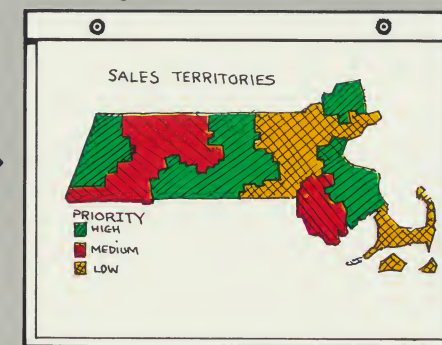
Graphics Service

Our Graphics Bureau produces custom maps, charts, and graphs from your own data or ours, designed to your specifications. We offer 24-hour to one-week turnaround, the newest graphics equipment, and skilled graphics, statistical and computer staff to analyze and display your data. We also digitize custom boundary and location files.

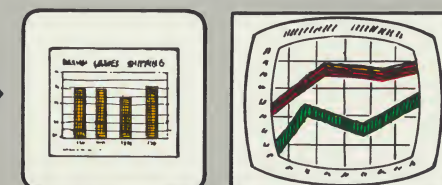
Full size transparencies or prints



Large format wall charts



35mm slides or video display

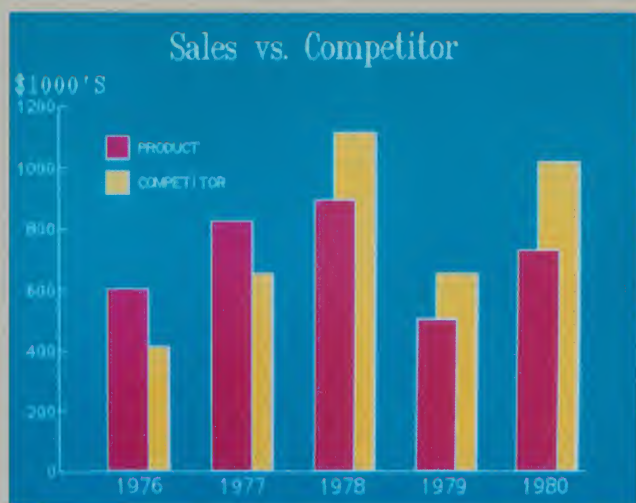


Abt/GRAPH

Abt/GRAPH is an interactive, question-and-answer program that creates many types of management graphics: bar charts, line graphs, pie charts, and line and bar graphs, in two and three dimensions, in black and white or in colors.

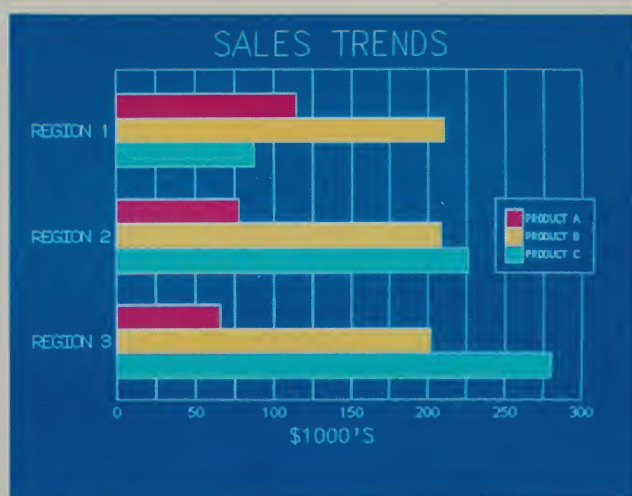
Abt/GRAPH prompts the user at each step of the design process. By answering a few simple questions non-programmers can make standard management graphs in minutes. You don't have to remember special commands or know a computer language to use this graphics system.

Abt/GRAPH also contains optional commands that let the user create completely customized graphics. Changes in text fonts, axis labels, titles, colors, patterns,



3D perspective, and many other aspects are quickly made. You can change from one type of graph display to another with one command, and draw multiple graphs on the same page.

Each time you use Abt/GRAPH, the program generates a file of computer instructions for drawing the type of graph you have designed.



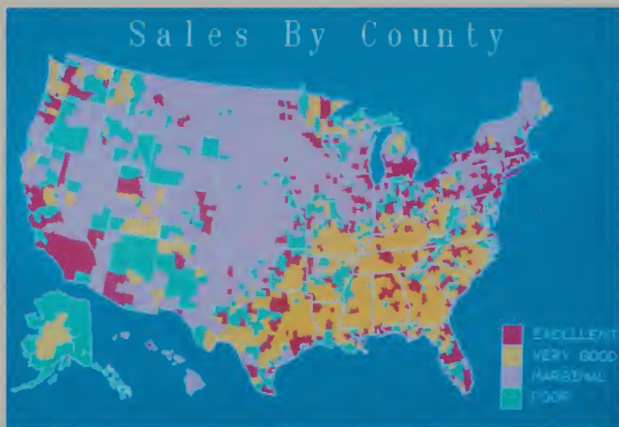
Since these instructions are easily stored and replayed later, Abt/GRAPH makes it simple to produce often-used charts and graphs again and again.

With Abt/GRAPH, you can design your own portfolio of management graphics and see management information appear vividly and precisely on a regular basis.

Abt/MAP

Abt/MAP is a program that draws outline and point-symbol maps of any geography and shades or colors these maps to display geographically coded data.

Most mapping programs allow only a few design choices. With Abt/MAP, you interact directly with the program and control all aspects of the map being drawn.



Colors, titles, legends, and patterns can be changed easily. Special symbols can be placed anywhere on a map. You can overlay several sets of boundary lines on the same map, or draw in your own.

With Abt/MAP you can take any piece of geography and shift or scale it to suit your requirements. You can zoom in on small



areas within an overall territory, or you can expand a small scale map to get a better view. Exploded maps are easy to draw with Abt/MAP, and you can create custom regional or territorial geography.

Since mapping functions are under your direct control, you can design maps a step at a time, making design changes as you wish. Abt/MAP also allows batch operation; it can handle big mapping jobs efficiently. Maps that took days to draw manually can be made in minutes with Abt/MAP.

Abt/MAP, like Abt/GRAPH, also generates a computer command file each time a map is made, and this file can easily be replayed to make the same map again at a later time.

Abt/GEOPLAN

Abt/GEOPLAN is a geographic territory data analysis and display system.

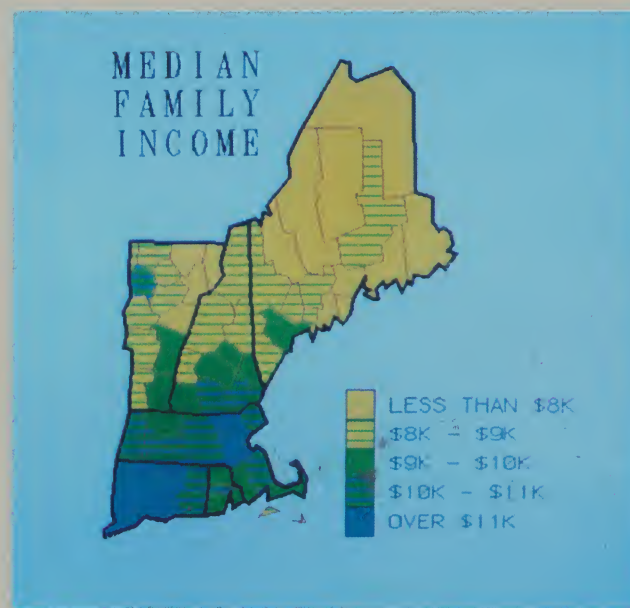
GEOPLAN takes any piece of geography, creates subdistricts or territories within that geography, helps analyze data connected to these areas, and displays territory data in map or statistical form.

Abt/GEOPLAN contains a mathematical optimizing routine that lets you set criteria

for planned territories, and then designs and draws territories to fit the criteria. It is an "if—then" map-drawing machine.

GEOPLAN can create optimal marketing areas, sales territories, service areas, or distribution regions. It can even overlay different territory plans on top of each other, so you can see significant correlations and differences immediately and decide which plan best meets your objectives.

Because it is an interactive system, Abt/GEOPLAN is an excellent tool for managers. You can map your territory plans, call up any you would like to check, and then redesign your territories. With GEOPLAN, you see results immediately.

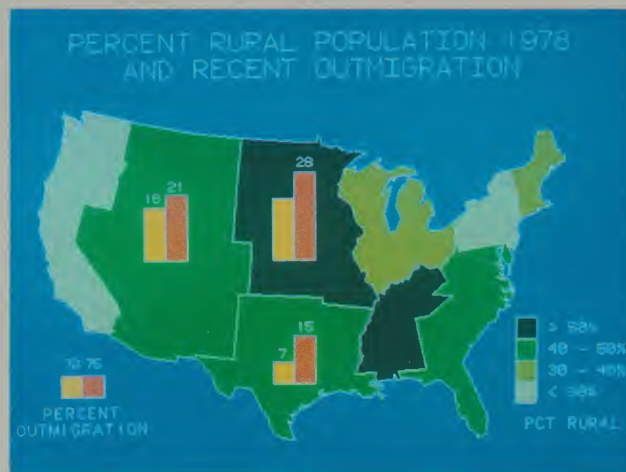


Data and Statistical Services

From the Abt Data Bank, we supply two types of data: (1) geographic data files, for creating map boundaries with Abt/MAP and (2) demographic, economic, and business data that can be mapped or graphed.

We have available geographic boundary files for three- and five-digit ZIP code areas, Areas of Dominant Influence and Designated Market Areas, SAMIs, SMSA census tracts, counties, and states. New boundary files are constantly added to the Data Bank. We also create custom boundary and location files for any geography.

We have available the most recent U.S. Census data, a number of standard economic data series, and many data files dealing with labor market characteristics,



housing conditions, health status, and other socioeconomic topics.

As a subsidiary of Abt Associates Inc., we can draw upon more than 700 professional staff in survey research, data processing, cost-benefit evaluation, economic forecasting, simulation modeling, and advanced statistical methods.

We can help create management graphics from start to finish; from problem definition to operational results.

We can help clarify your information needs, design information systems, specify data collection procedures, select strategies for data analysis, and create graphic display formats for presenting information.

Abt/CORE

All our graphics software is built upon a common base: the Abt Core Graphics Utility, or Abt/CORE.

Written in machine-independent FORTRAN, Abt/CORE is an enhancement of the Tektronix Interactive Graphics Library, a set of over 200 graphics subroutines which are used in applications programs.

Abt/CORE serves as a coupler between the Abt graphics software system and various host computers and graphics display or output devices. By simply changing a few parts of the Core Graphics Utility, we can install our entire graphics system in most computer environments.

Abt/CORE allows for more efficient computer graphics by collecting in one place those graphics routines most frequently used by our application programs.

Abt/CORE is an advanced utility which follows all the concepts recently suggested in the Association for Computing Machinery/SIGGRAPH study on computer graphics.

WITH THE CORE CONCEPT, YOU CAN ADD SOFTWARE MODULES AS NEEDED

Our building block approach to graphics software means that you purchase only what you need to meet present software needs.

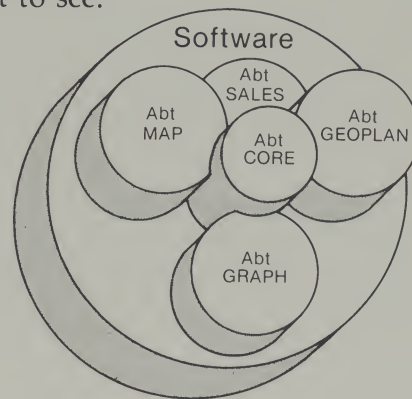
You can acquire additional programs from the Abt software library and be assured that later additions to your system are compatible with earlier ones.

OUR SOFTWARE LIBRARY IS GROWING

We have already added several special applications programs to our basic graphics software system to let marketing managers define new sales territories based on market information or allow public officials to do legislative redistricting. We continue to develop new software products, test them in our Graphics Bureau, and ship them to our clients.

ALL OUR GRAPHICS SOFTWARE IS EASY TO USE

All our programs are designed to be run by non-programmers. Question-and-answer prompting helps you each step of the way. We will continue to seek easier and easier ways for managers to get the data pictures they want to see.



System Installation

Once you have selected your management graphics software, we can help select and acquire the necessary graphics equipment, install your graphics system, and train staff to use it.

A typical management graphics system includes the following equipment:

- A *video display terminal*, on which the graphics are designed and which is coupled to the host computer.
- A *hard copy unit*, which produces an inexpensive black and white thermal copy of the video screen image.
- A *camera*, which makes Polacolor prints, negatives, or 35mm slides of the map, graph, or chart.
- A *plotter*, driven by the host computer, which makes higher resolution paper or acetate copies of the image.
- A *host computer*.

Other output devices include color impact printers, ink jet plotters, color Xerox or electrostatic copiers, or video disk recorders.



Because our software is designed around the core concept, it is compatible with many computers and output devices. This gives us an edge in meeting your special graphics requirements.

We can provide specifications on any computer graphics devices, consult on graphics system design, and install the hardware you choose, ensuring that equipment performs.

We can also train management and technical staff to use the system. Seminars for managers include better ways of obtaining information through computer graphics. Documentation for system users includes the basics of computer graphics and advanced graphic design techniques.

Graphics Service

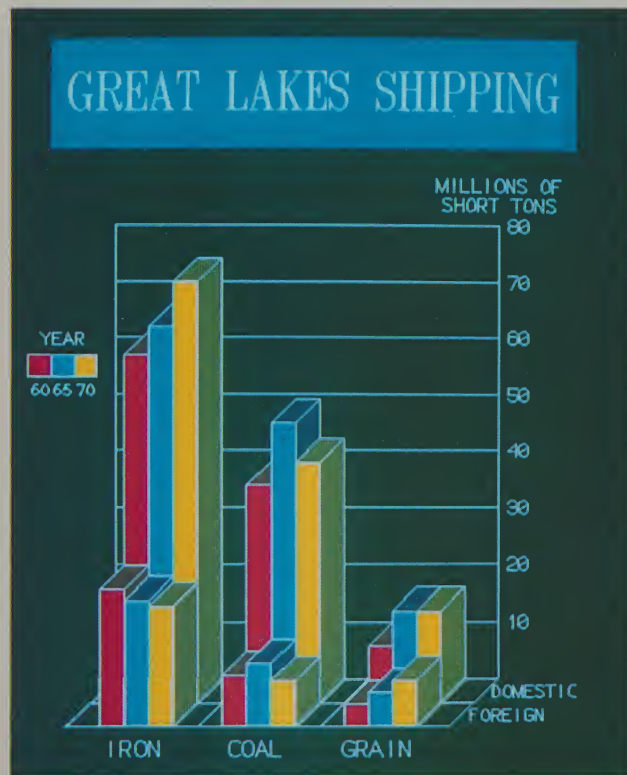
The Abt Graphics Bureau produces hard copy maps, graphs, and charts on a service bureau basis. For clients who have large, one-time projects or smaller amounts of data to display, this is an ideal way to use computer graphics, because it avoids the purchase of any equipment.

Our Graphics Bureau staff work with you to define the type of output needed, arrange for data processing, and design the graphics themselves.



Polacolor prints, 35mm slides, poster-size graphic displays, or black and white hard copies can be delivered in as little as 48 hours.

Clients' data can be kept securely on file at Abt for easy updating. We can also design



and keep on file a portfolio of management graphics that meet your unique needs. This means that updating your graphics is faster; a phone call will do it.

For multimedia presentations, we also have available the services of a complete graphic arts studio, printshop, and bindery. Corporate financial reports, sales presentations, and management briefings can be designed to your specifications and delivered on short notice.

Abt Computer Graphics Corporation

Abt Computer Graphics Corporation is a closely knit team of computer graphics professionals with backgrounds in computer science, engineering, management, mathematics, statistics, and the social sciences. We have four divisions: Software and Systems Development, Marketing, Production, and Analytic Services.

Our distinguished Board of Directors includes leading authorities in the fields of business administration, computer graphics technology, visual information analysis, and communication.

Formed in 1980, the company has developed, tested, and marketed a complete line of graphics software products, implemented the Graphics Bureau, and offered a full spectrum of visual information services.

As a subsidiary of Abt Associates Inc., one of the nation's leading management research and public policy evaluation firms, we are backed by over 15 years and \$150 million of experience in product development and project organization. We can draw on an extensive and diversely skilled staff base to meet our clients' special requirements.

We do business nationwide through the following offices:

HEADQUARTERS:

55 Wheeler Street
Cambridge, Massachusetts 02138
Tel. (617) 661-2400

REGIONAL OFFICES

1521 New Hampshire Ave. N.W.
Washington, D.C. 20036
Tel. (202) 466-4343

1410 Grant Street
Suite C207
Denver, Colorado 80203
Tel. (303) 830-0181

Abt Associates Forschung
Gesellschaft fur Sozial-und
Wirtschaftswissenschaften mbH
Rittershausstr. 15
D-5300 Bonn 1, West Germany
Tel. (0228) 210079

Directors:

Clark C. Abt	George Michaels
Daniel Bell	Peter Miller
Brian J.L. Berry	David A. Napior
Jerome Bruner	Ithiel de Sola Pool
Jack Fultz	John A. Shane
Nathan Keyfitz	Arthur Rosenthal
Theodore Levitt	

Officers:

Clark C. Abt, Chairman
Jack Fultz, President
David A. Napior, Executive V.P.
Grover Gregory, Mgr. Software Development
Robert L. Goodrich, Mgr. Analytic Services

GRAPHICS BUREAU

Business Graphics and Analysis Performed On-site at Abt Computer Graphics Corporation

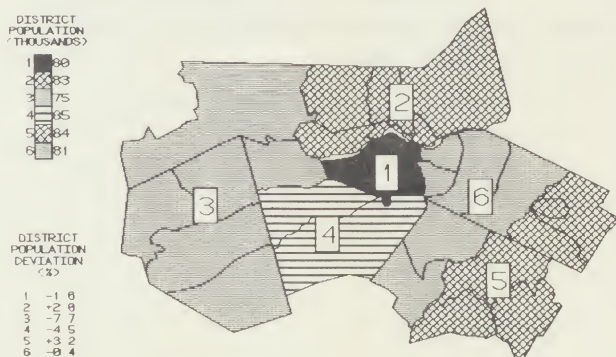
Business Graphics Service Available

Abt Computer Graphics Corporation's GRAPHICS BUREAU offers a graphics production and statistical analysis service for business and government.

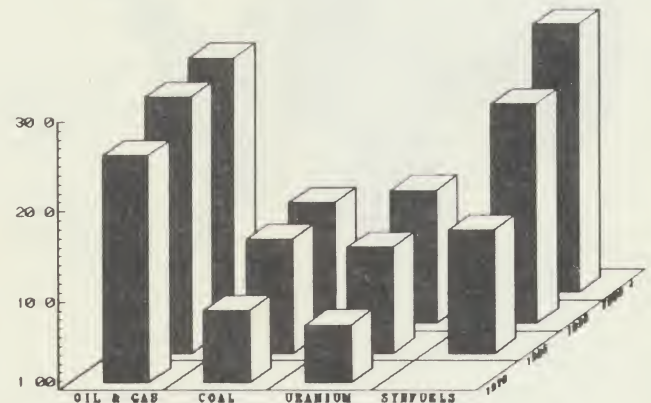
The GRAPHICS BUREAU is unique. Not only do we provide competitively priced computer graphics, but our business analysts can provide valuable assistance in problem solving and help to communicate solutions and plans more effectively.

Our GRAPHICS BUREAU provides a full array of business graphics, from simple line graphs to complex 3D bar graphs and a wide variety of thematic maps. Included are all cartographic data, the ability to combine graphs with maps, and a full range of data bases. Our data bases include the use of the Donnelley ZIPROFILESM data base and several social, economic and demographic data bases from Abt Associates Inc.

ALTERNATIVE APPORTIONMENT PLAN 2



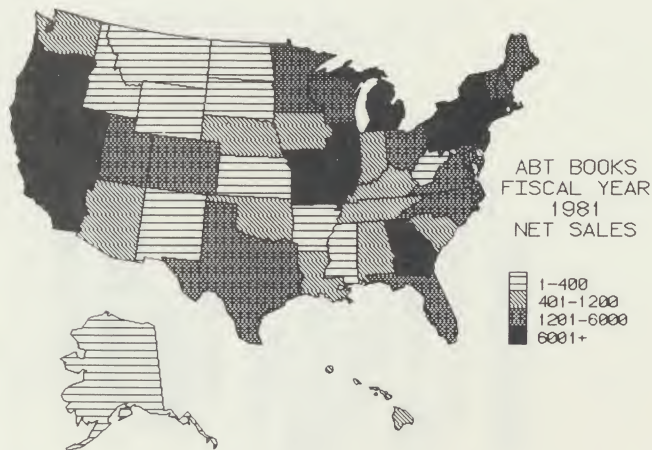
WYOMING: DIRECT EMPLOYMENT BY ENERGY SECTOR



The GRAPHICS BUREAU will produce graphs, charts, and thematic maps to your specifications. We offer a full range of standard graphs, charts, and maps, including:

- ☐ 2D & 3D bar charts
- ☐ line graphs
- ☐ pie charts
- ☐ U.S. maps
- ☐ state maps
- ☐ county maps
- ☐ zip code maps
- ☐ census maps
- ☐ special market maps
(ADI, DMA, SAMI, BEA)

We can also combine different types of graphs, charts, maps, and even sketches to address your particular needs.



GRAPHICS BUREAU products are available in black and white or full color and in a wide variety of formats suitable for reproduction:

- ☐ 8½" x 11" paper
- ☐ 35 mm slides
- ☐ 8" x 10" polacolor
- ☐ 8" x 10" sheetfilm
- ☐ 8" x 10" view graphs
(for overhead projection)
- ☐ 11" x 17" paper
- ☐ 11" x 17" clear acetate
- ☐ 22" x 33" wall charts
(paper, clear or matte acetate)

Our graphic artists design maps and charts with aesthetically pleasing layout, labeling, and colors, or you may select your own layout, labeling, and colors.

GRAPHICS BUREAU business analysts are specialists in geodemographics, the analysis of geography, economics, and demographics. We can assist in:

- ☐ sales territory creation and monitoring
- ☐ site location and evaluation
- ☐ customer location and demographic analysis
- ☐ direct mail and advertising campaigns
- ☐ forecasting

Our business analysts can help identify problems, develop strategies for solving them, procure the most appropriate data, and formulate measurable goals.

Our computer graphics will communicate your plans clearly and quickly. In addition, we will, if you wish, assist you in all phases of program planning and execution.

For more information on Abt Computer Graphics Corporation products and services, or to order graphics products, contact:

Abt Computer Graphics Corporation
55 Wheeler Street
Cambridge, MA 02138
(617) 661-2400

CARTOGRAPHIC DATA BASES

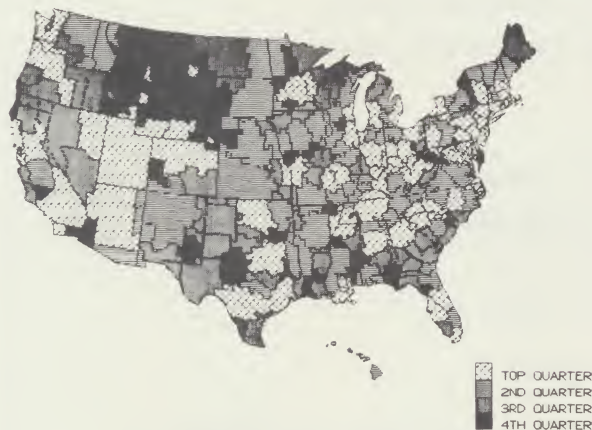
Sold with Purchases of Abt/MAP™ and Abt/GEOPLAN™ and Available in GRAPHICS BUREAU Services

A Cartographic Data Bases Service

Abt Computer Graphics Corporation (ACGC) offers a comprehensive set of Cartographic Data Bases (CDBs) for creating computer-drawn maps, which can be used to display any information associated with geographic units. All ACGC Cartographic Data Bases include boundaries for geographic units and labeling points for convenient identification of individual geographic units by name or number.

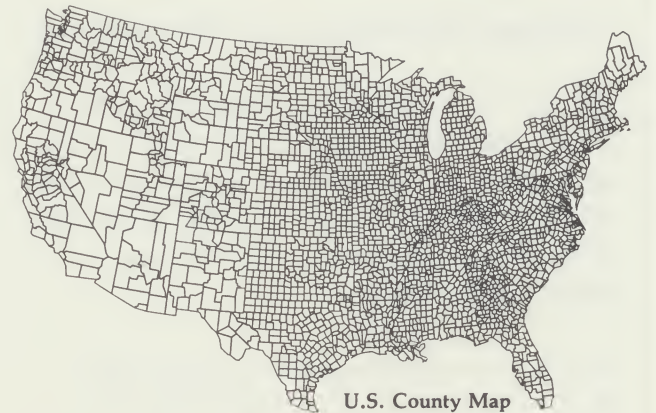
Standard Data Bases From Our Files

MARKET SIZE (DMAs)



The following Cartographic Data Bases are available:

- ☐ **World Map** coastlines and major political divisions



☐ **United States**

- States
- Counties (low and high resolution)
(24,000 points or 102,000 points)
- Congressional Districts (1970)
- Neilsen—Direct Marketing Areas (DMAs)
- Arbitron—Areas of Dominant Influence (ADI)
- Standard Metropolitan Statistical Areas (SMSA)
- Census Geography (1970)
- 3-Digit Zip Codes
- Time Inc.—Selling Areas-Marketing Inc. (SAMI)
- Bureau of Economic Analysis Areas (BEAs)

☐ **Canada**

- Provinces
- Federal Electoral Districts
- Census Divisions (1976)
- Census Tracts (1976)

All U.S. CDBs can be integrated for overlay production, e.g., counties and zip codes.

ZIPROFILESM MAPS

Abt Computer Graphics Corporation and Donnelley Marketing offer A New Demographic Information Service

Now you can know your market better by displaying up-to-date marketing information on Zip Code Maps.

Abt Computer Graphics Corporation (ACGC), in cooperation with Donnelley Marketing, offers ZIPROFILESM Maps showing current zip code characteristics, including:

- ☐ demographics
- ☐ residential information
- ☐ commercial characteristics
- ☐ banking information
- ☐ Social Security information

You can also display your own data on zip code maps, including:

- ☐ store/business locations
- ☐ competitor locations
- ☐ customer locations

By combining zip code data and mapping, ZIPROFILESM Maps target your markets more effectively. You can:

- ☐ evaluate your current locations,
- ☐ identify the best zip code areas for direct mail advertising,
- ☐ identify the characteristics of your current customers,
- ☐ identify the best location for a new store in another city.

Zip code maps are available for SMSAs, DMAs, ADIs, and SAMIs, and any group of counties that you choose. You can display any of the variables in the Donnelley Marketing ZIPROFILESM (1980) or your own zip code data, as well as zip code numbers, post office names, and the highway network within the mapped area. You select special symbols showing store and customer locations.

Two types of maps are available: zip code boundary maps and zip code symbol maps. Both types show the major geographic subdivisions of the area chosen. Zip code boundary maps display zip code boundaries, zip code numbers/post office names, and the data of your choice.

Zip code symbol maps display data through symbols, such as dots and squares, located at the center of each zip code. Symbols can vary in type, size, and color. Symbol maps can be produced as overlays for a zip code boundary map to display additional variables and transportation networks.

Maps are available in 8"x10" polacolor hard copy, clear acetate (for overhead projection); 11"x17" plots; 22"x34" paper or acetate, and 35mm slides. Individual counties which include 50 or fewer 5-digit zip codes can be produced in an 8"x10" format or as slides. The 22"x34" format accommodates up to 300 zip code areas, space enough for most ADIs, DMAs, or SMSAs.

You can use these high-quality color maps in presentations to clients or for your own use. For example, you can use them to:

- ☐ identify communities with a large proportion of families with school-age children;
- ☐ find locations with a predominance of

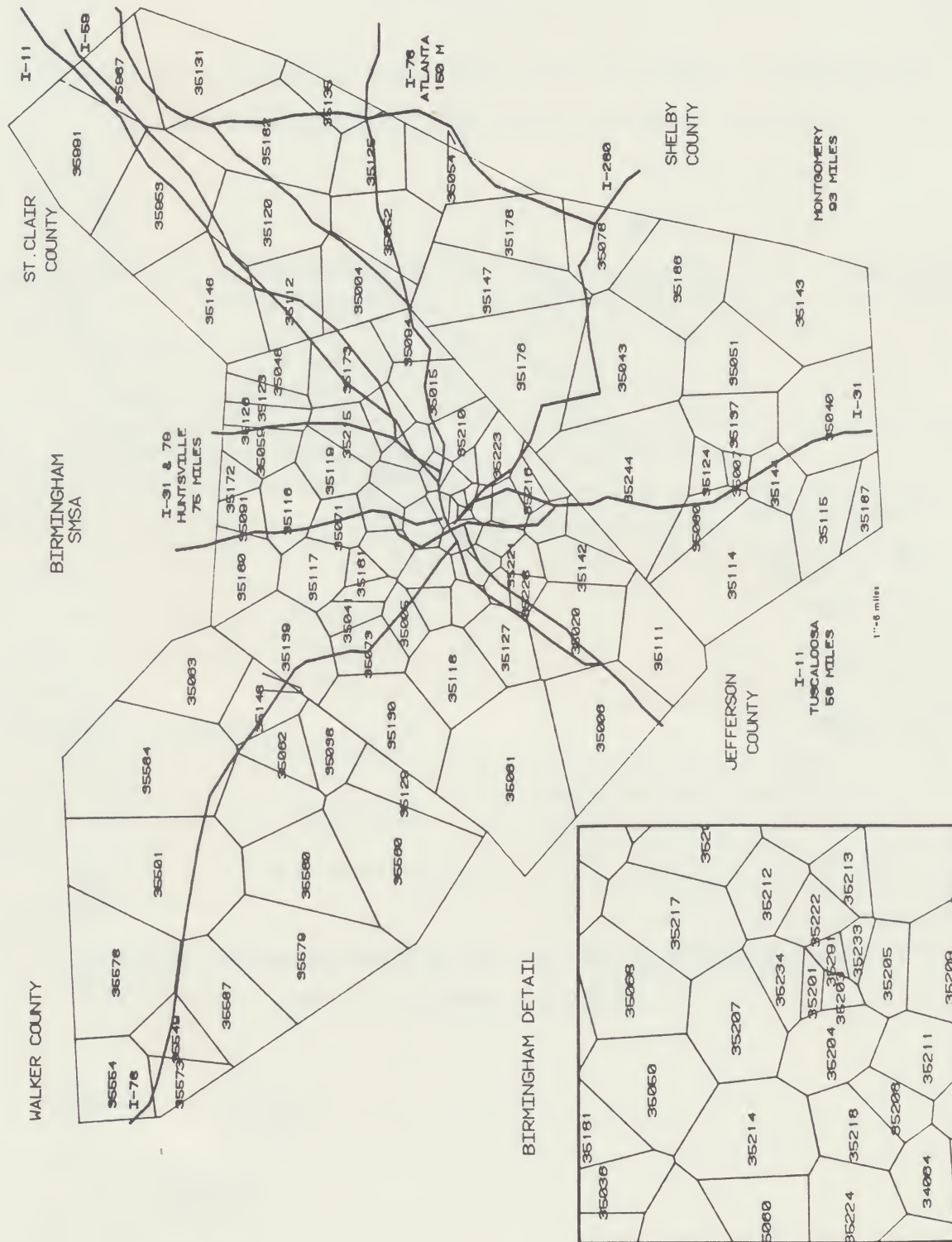
owner-occupied or rented housing, working class or professional employees, persons who drive to work or take public transportation;

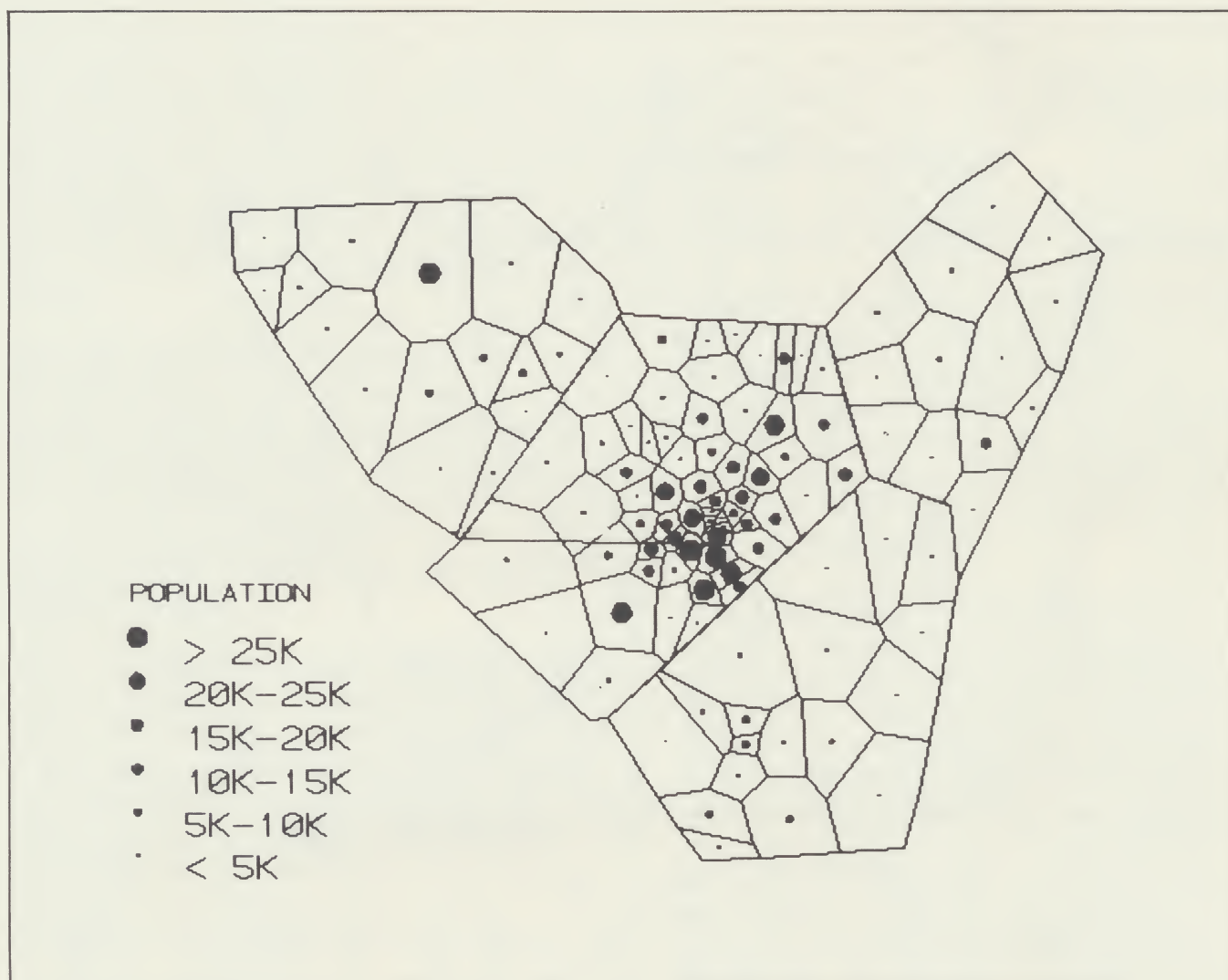
- ☐ screen zip codes for information on retirees and Social Security beneficiaries.

The range of application is limited only by your imagination. The combination of Donnelley Marketing ZIPPROFILESM and ACGC computer mapping makes it easy to answer questions about who, what, and where. These maps will increase your productivity, improve your communication, and pay for themselves.

ACGC's Statistical Consulting Service can also assist you in market segmentation, site location, sales territory creation and control, and in a variety of other applications of geodemography. We can integrate Donnelley's ZIPPROFILESM and your proprietary data to address questions of special interest to you. Finally, ACGC can supply you with powerful but easy-to-use software so that you can maintain computer mapping and geodemographic capabilities on your own computer.

While ACGC is an authorized representative of Donnelley and has the data base available, the right to use it must be purchased from Donnelley. We will arrange for its use. Prices for the Donnelley data base and ZIPPROFILESM maps are available upon request.





An example of an overlay map for the Birmingham Base Map (page 3).

Maps are available in full color.

For Additional Information,
Contact:

Abt Computer Graphics Corporation
55 Wheeler Street
Cambridge, MA 02138
Telephone (617) 661-2400

ACGC Price List

EFFECTIVE August 1981
prices may be changed without notice

Abt Computer Graphics Corporation
55 Wheeler Street
Cambridge, MA 02138

(617) 661-2400
TWX 7103201382

Abt Computer Graphics Corporation Price List

Effective August 1981

Product/Summary	Installation Alternative		Annual Maintenance and Enhancement (License only; after first year)
	Monthly Rental	License	
Abt/CORE™ Graphics Utility General-purpose, machine and device-independent core graphics subroutines for composition and display of graphic and textual material. Abt/CORE™ IS A REQUIRED COMPONENT FOR INSTALLATION OF ALL GRAPHICS SOFTWARE. Current fully licensed IGL sites qualify for credit against Abt/CORE™.	\$ 500	\$12,500	\$1,500
Abt/GRAPH™ Interactive business graphics system: pie charts, 2D & 3D bar charts, line graphs, and diagrams. Variety of features such as shaded fonts, cursor placement, and menu-selection.	\$ 550	\$15,000	\$1,800
Abt/MAP™ Interactive thematic mapping system: cartographic data bases (CDB) (US, states and counties); CDB manipulation (aggregation, zoom, shift); map drawing with color and cross-hatched area fill; data-driven pie and bar charts; symbol, text and line-network overlays.	\$1,150	\$30,000	\$3,600
Abt/GEOPLAN™ (Includes Abt/MAP™) Geographic territory data analysis and display system: interactive and automatic optimization of territories based on user-specified parameters. Full color display of map solutions plus all features of Abt/MAP™.	\$1,900	\$50,000	\$6,000

Device Drivers

Current support of all Tektronix display devices, AED-512, IBM 3278/79, Houston Instruments plotters, Nicolet-Zeta plotters, Hewlett-Packard, Applicon ink-jet plotters, III FR80, and Cal Comp plotters. Additional device drivers are under development. The software agreement includes 3 free-of-charge device drivers of the customer's choice and general driver interface for user maintained drivers.

First three free-of-charge
\$1,000 each thereafter

Cartographic Data Bases

Cartographic data bases for use with Abt/MAP™ and Abt/GEOPLAN™ are available including SMSAs, Arbitron ADIs, Nielsen DMAs, Census Tracts, 3 digit and 5 digit Zip codes and BEAs. Custom cartographic data bases will be considered under separate agreement.

Pricing available upon request.

Installation Alternatives

License Plan

The license plan includes a 20-year license for unlimited use on the host system. Maintenance for the first year, on-site training, documentation and product installation by ACGC are also included. Discounts are available for multiple copies and/or multiple host systems.

Rental Plan

The rental plan includes support and services similar to the license plan. Maintenance is included for as long as the rental plan is in effect. The minimum monthly rental period is six (6) months. Conversion to a one-time license during the first ninety (90) days will result in a credit to the license fee of 100% of the rent paid. Conversion to a one-time license after this period but within the first twelve (12) months will result in a credit of 70%.

External Service Bureau Plan

Available for computer centers, timesharing and/or computer services vendors who receive continuing revenues from external customers (usually on a usage basis), the Service Bureau Plan allows the offering of ACGC products on a royalty basis. Details will be provided upon request.

Support

Installation

Installation of ACGC software products is accomplished by ACGC software engineers at the customer's site. The products are delivered on tape as object modules. The modules are designed for the specific host computer (CPU) and operating system specified in the license or rental contract. The software includes a comprehensive set of test cases to serve for both instructional and debugging purposes. Travel and per diem for installation staff are billable.

Documentation

Documentation includes User Manuals, Pocket Guides and Installation Guides. See documentation order form for prices.

Training

Full-day training and instruction for each product is provided as part of the license agreement. Customers will pay travel and per diem for the training staff. Periodic training sessions are planned for in Boston, Denver and Washington, D.C. Customized or additional training at a user's site is available on a contract basis.

Annual Maintenance and Enhancement Plan

Under the license plan the customer may participate in newly-developed product enhancements and continued maintenance. The plan includes revised documentation, new versions/releases of the product, and the like. Planned enhancements and new announcements will appear in the users group newsletter. Maintenance is included in the Rental Plan.

Device Drivers

At installation or within 60 days of installation ACGC will provide any of the three devices currently supported by the company. Also, the customer may request one additional device driver from those offered by ACGC under the annual maintenance and enhancement contract. ACGC will also develop a device driver for any user-specified device at anytime on a contract basis.

Services

ACGC Graphics Service Bureau

ACGC directly offers in-house graphics, mapping and data base services to outside users via an on-site Prime 750. Details will be provided upon request.

Graphics System Configuration

This ACGC service is designed to assist users in identifying a graphics system which will meet their specific needs. Contact ACGC for further details.

Software Development Contracts

ACGC has an experienced software development and statistical analysis team. Specializing in the development of powerful, easy-to-use analytic and display systems, they have undertaken a variety of custom software development projects in the areas of operations research, multi-varied statistical analysis, and analytic geography. Their capabilities are available on project basis.

- All prices are quoted F.O.B.,
Cambridge, Massachusetts.
- Host computers include:
IBM 360/370/303x/43xx
Prime 150 through 750
CDC CYBER

Additional vendor support will be forthcoming.

For Additional Information, Contact:

Abt Computer Graphics Corporation
55 Wheeler Street
Cambridge, MA 02138
Telephone (617) 661-2400

Abt/GEOPLAN™

Territory Monitoring and Design System

Computerized Territory Realignment

Abt/GEOPLAN™ is an interactive computer software system designed to help managers create, monitor, and realign sales, service, and distribution territories. Abt/GEOPLAN™ provides managers with a powerful but easy-to-use tool for linking geography with sales, distribution, service, and other business data.

Benefits of Using Abt/GEOPLAN™ for Territory Analysis

Abt/GEOPLAN™ will increase productivity by:

- ☐ targeting or redrawing sales, service, or distribution territories faster than manual approaches; and
- ☐ providing maps and reports that facilitate communication of goals and achievements. (Figure 1)



Figure 1

Abt/GEOPLAN™ will reduce marketing and operating costs by:

- ☐ constructing territories with specifiable properties, such as uniform potential or actual sales dollars, customer counts or calls; and (Figure 2)
- ☐ shortening the cycle required for sales retargeting, territory realignment, and resource allocation.

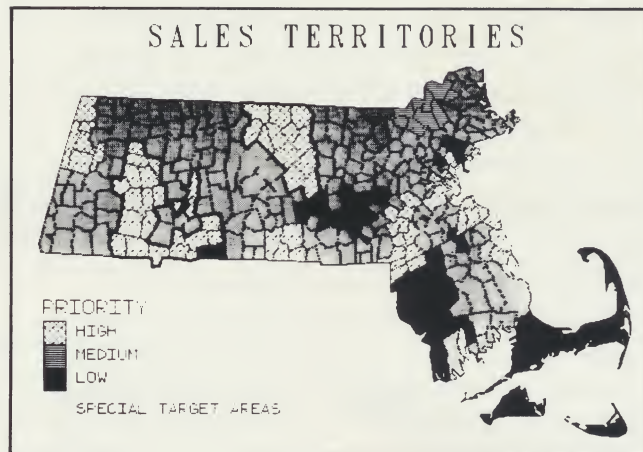


Figure 2

Abt/GEOPLAN™ will help increase market share by:

- ☐ making it cost-effective to do fine-grain tracking of your performance (and your competitors) with powerful visual displays that highlight problem areas and target areas of opportunity; and
- ☐ allowing for superior competitive response through timely allocation of resources and faster reactions to market cycles.

Abt Computer Graphics Corporation

How Abt/GEOPLAN™ Works

Abt/GEOPLAN™ uses interactive computer graphics, computerized data bases and quantitative models, and a simple menu of commands, which can be utilized by individuals with no specialized knowledge of data processing equipment, programming, or quantitative analysis.

First, the system presents existing territories on a computer terminal, in the form of maps (Figure 3A) or full statistical print-outs. The user can simply zoom in for a detailed look at a high density area (Figure 3B). These maps and tabular reports indicate problems associated with misalignment such as sales staff required to spend numerous nights on the road due to driving distances; market share of one territory shrinking to, say, one-third the size of prior year's share due to competition; or service representatives unable to make efficient use of time in traveling from one major activity area to another.

To remedy problems of misalignment, the user can choose to assign and reassign units *interactively*. Alternatively, the user can set the computer to *automatic mode* and instruct it to use an optimization routine to create sales, service, and distribution territories (Figure 4), which are a function of such variables as:

- ☐ sales potential, actual sales history, and sales cost;
- ☐ population and income distribution of an area;
- ☐ size, distance, and number of sales staff required to service the new territory;
- ☐ number of staff required to service existing or proposed accounts;
- ☐ residences of the sales and service staff;
- ☐ number and location of warehouses and distribution centers in the new territory.

The user can select a "seed" area and build a territory around it—e.g., the current residence of the sales manager selected to take charge of the proposed territory, the zip code location of the present company warehouse, or the real estate on which the company wants to build a regional office. The system thereby gives the user *full control* over the creation and realignment of sales and service boundaries.

"What if" scenarios can be displayed both as maps (Figure 5), and as tables with a few simple commands. The program draws territorial lines according to the rules set by the user. It produces hard copy for distribution to other decision makers and support staff.

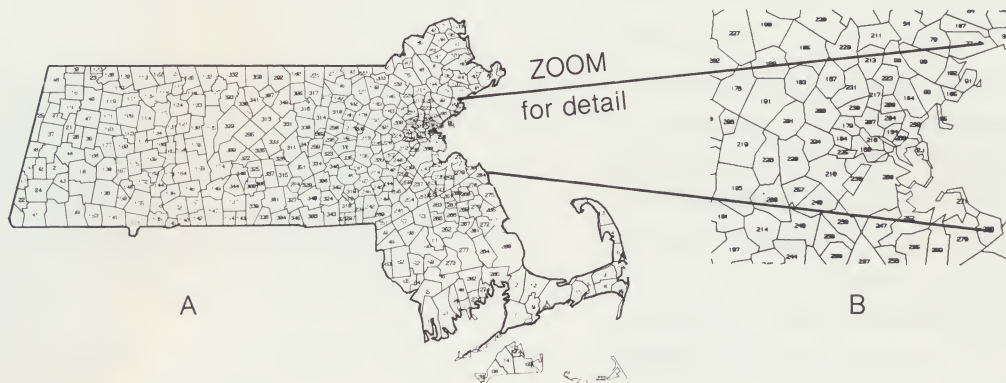


Figure 3

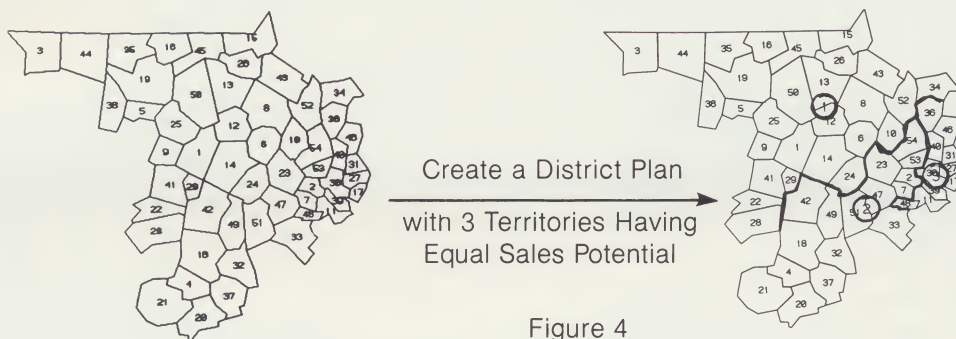


Figure 4

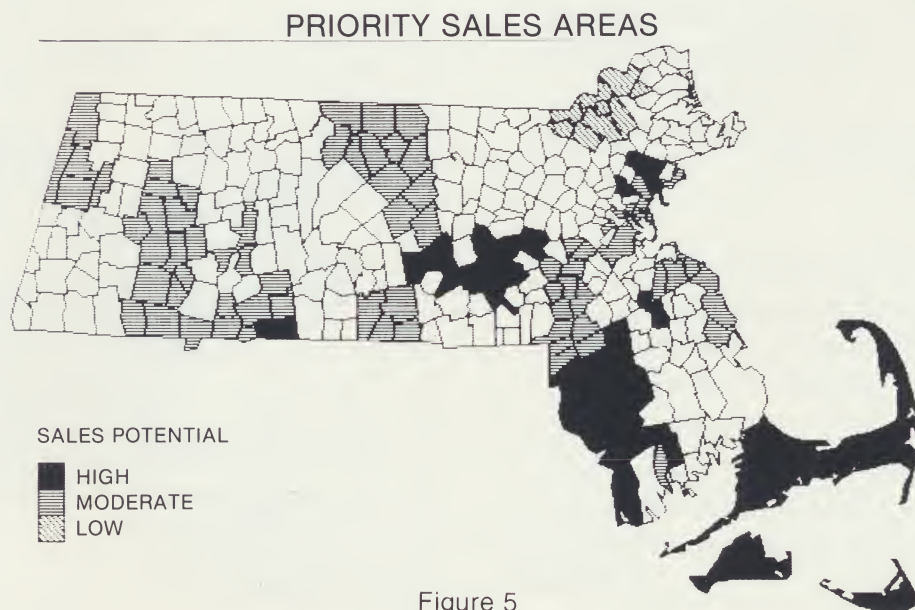


Figure 5

Abt Computer Graphics Corporation

Abt/GEOPLAN™ Consists of Four Software Systems:

1. The **Data Base Management System** provides easy access to the complex data required to build and monitor sales/service territories. (Figure 6)
2. The **Territory Building System** permits the user to plan territories either manually or automatically, applying user-specified criteria for composition (e.g., sales records, sales potential, service calls, residential or commercial market characteristics), and creating and modifying complex plans in a matter of minutes.
3. The **Reporting System** provides statistical reports for use in planning and monitoring territories.
4. The **Computer Graphics Mapping System** displays maps of district plans on a graphics output device so that the user can see what a district looks like as a plan is developed. The mapping system can zoom in on the fine detail of an inner city or give a general picture of a regional plan. It produces full-color, camera-ready maps suitable for internal or external dissemination.

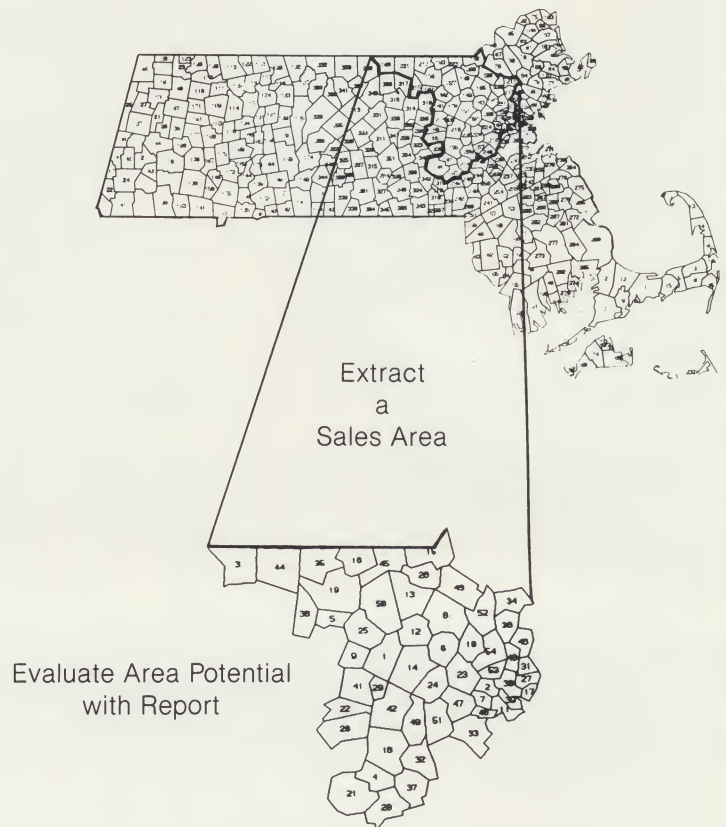


Figure 6

For additional information, contact:

Abt Computer Graphics Corporation
55 Wheeler Street
Cambridge, MA 02138
Telephone (617) 661-2400

Abt Computer Graphics Corporation

Abt/CORETM

Business Graphics Software That Means Business

A Powerful Core Graphics Utility

Abt/CORE is a set of more than 200 graphics utility subroutines that perform basic functions in making graphs, charts, maps, and drawings. These subroutines create lines and polygons, generate text, fill polygons with colors or patterns, and locate different pieces of a picture on the page.

All of the graphics programs in the Abt software library call on Abt/CORE.

In addition, a graphics programmer can use Abt/CORE to write graphics application programs. It can be used for computer aided design and engineering work.

Abt/CORE also makes it easy to operate any Abt business graphics software package on any host computer or graphics display or output device.

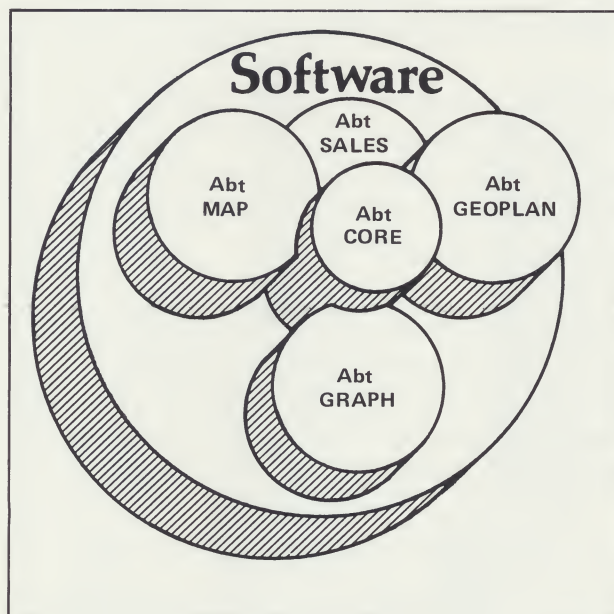


FIGURE 1

Abt/CORE contains a modular host I/O interface and allows various graphics device drivers to be coupled to your system.

Abt/CORE has a powerful set of routines that automatically emulate the features of different graphics output devices. Programs written to run on one type of display terminal are automatically adjusted to work on different terminals. Colors, patterns, formatting, and other parameters do not have to be laboriously reset when equipment changes.

Using this core graphics system, you will have access to the full range of graphics options, now and in the future. Technical flexibility and device-independence are built into your system from the start.

A True Market Leader

Abt/CORE is an enhancement of the Tektronix Interactive Graphics Library (IGL).

We chose IGL as the core of our business graphics library for several reasons.

As part of the Plot 10 family of graphics utilities, Tektronix IGL is installed on more computer graphics systems than any other utility package. IGL has been proven worldwide by one of the world's largest manufacturers of graphics devices.

Tektronix continues to enhance IGL with the latest graphics features, and these features are available to Abt/CORE as they are introduced. With our core system,

you share the benefits of one of the nation's largest R&D efforts in computer graphics.

Tektronix supports its software with excellent documentation and technical service. This assures you that Abt/CORE and its enhancements will be easy to operate and trouble-free.

The Core Graphics Concept

Abt/CORE is an implementation of the Association for Computing Machinery (ACM) SIGGRAPH recommendations for a Core System in computer graphics.

The Core System, which is rapidly becoming the North American standard for computer graphics, is intended to ensure maximum efficiency in graphics programming, true device-independence for applications programs, and the capacity to support all anticipated modes of graphics input and output.

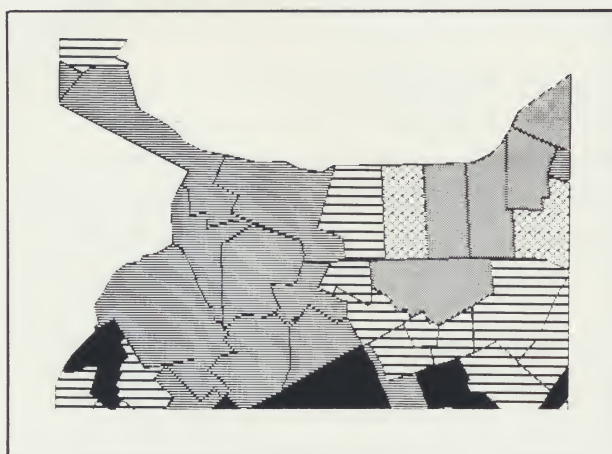


FIGURE 2

Abt/CORE is written in MORTAN, a structured FORTRAN pre-processor which produces substantially device-independent, standard FORTRAN. Thus any installation that supports FORTRAN can use Abt/CORE.

Following the Core System, Abt/CORE enables the programmer to construct graphics using only a small number of standard "building blocks."

Core graphics components include *primitives* (such as lines, polygons, markers, or text); *attributes* (like line width and quality, color, text size, and fill pattern); and *segments* (combinations of primitives, or pieces of a picture).

Using Abt/CORE, a programmer can easily change the component parts of a graphic design without having to reprogram the entire design. This speeds production work and does away with the tedious program fixes required by older systems.

Abt/CORE allows the programmer to work in a device-independent coordinate space, while the software takes care of scaling the picture to the coordinate system required by the chosen hardware.

Abt/CORE also offers substantial benefits for graphics system design. With its modular structure, new device drivers can be added simply. New text capabilities or additional type fonts can be coupled in.

No matter what new developments the technology of computer graphics may introduce, Abt/CORE has the capability of accepting them with a minimum of change.

Abt/CORE Features

☐ System Environment Routines

- The user can specify an output device, set baud rate, capture and replay a file, save text, and store environment specifications.
- Abt/CORE automatically emulates special features missing from the chosen output device.

☐ Graphics Environment Routines

- The user can scale, rotate, or offset the image, specify window and viewport, manipulate the display metric (raster, millimeters, inches, radians, degrees), and control edge margins and clipping.
- Complete control over patterns and colors for lines, panels, and text. Specify custom colors by controlling hue, lightness, and saturation.

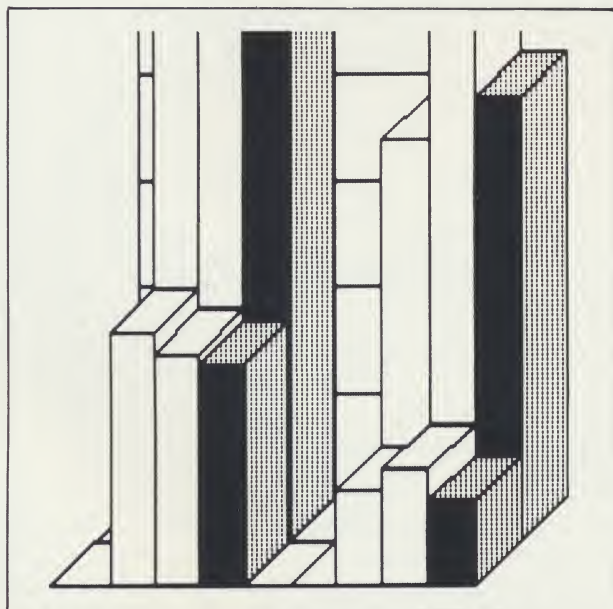


FIGURE 3

☐ Graphics Action Routines

- Allow the user to move the cursor, draw graphic elements, display or emulate a panel or polygon, locate points, erase material, or generate a hard copy from the screen.

☐ Text Manipulation Routines

- Let the user manipulate the location, orientation (e.g., slant), and appearance of text.
- Text font, height, width, spacing, outline color and fill color can be specified separately.
- The user can select from a wide variety of fonts within Abt/CORE, and new fonts are constantly being added to the system.

☐ 3D Graphics Routines

- The user may control x , y , and z scaling, rotation (around either a point or an axis), and shearing.
- Modeling transformations, viewport volume specification, reference point and eye position are all separately controlled, so any 3D image can be represented from any point of view.
- Display metrics and angle units are also controlled.

☐ Graphics/Text Composition

- Abt/CORE is a versatile text editor. Font spacing and size, text justification (left or right), and special markers can all be controlled.
- The user can create special fonts or individual symbols and emulate characters from different fonts.

☐ **Capture and Replay**

- Complex graphics can be broken down into component parts, each of which can be captured and replayed. This simplifies graphics composition.

☐ **Default Options**

- Abt/CORE sets default values for many options and arguments, allowing the user to produce a basic picture quickly. Default values can then be replaced in later displays, as the picture is finalized.

☐ **Error Messages**

- Detailed error messages point to the routine, argument, or option that produced the error, simplifying debugging.

A Wide Range of Output Devices

Abt/CORE supports any Tektronix 4010 or 4020 Series display terminal or the 4662 or 4663 plotters.

It also supports the AED 512 terminal, Houston Instruments and Cal Comp plotters, the III FR80 system, and the Applicon ink jet plotter. Drivers for IBM, Hewlett-Packard, Chromatics, Ramtek, and other devices are under development.

Training and Support

Abt/CORE is fully documented. New users of the software receive copies of the Tektronix manual and a pocket guide for Plot 10 IGL, plus a description of all Abt/CORE enhancements.

Additional training for individuals or groups is available. Technical staff from Abt Computer Graphics are on call to answer any users' questions.

For Additional Information, Contact:

Abt Computer Graphics Corporation
55 Wheeler Street
Cambridge, MA 02138
Telephone (617) 661-2400

Abt/GRAPH™ *Business Graphics Software That Means Business*

Business Graphics Made Easy

Abt/GRAPH lets any businessperson make quality graphs and charts in minutes.

Using a simple question-and-answer prompting system, you can sit down with Abt/GRAPH and quickly prepare a presentation, update your market information, or illustrate complex financial data.

Abt/GRAPH draws bar charts in two or three dimensions, line graphs, bar-and-line charts, or pie charts. You can combine these formats, or switch from one to another as needed. Control color selection or draw in black and white.

You can also use Abt/GRAPH to design your charts any way you want them, since this system gives you control over a long list of optional features.

Abt/GRAPH runs interactively or in batch mode. You can enter your data directly from the keyboard or from computer files, and this software can be coupled to your own management information system.

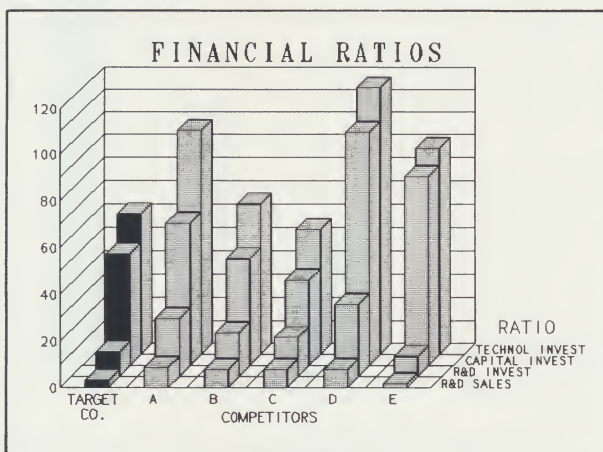


FIGURE 1

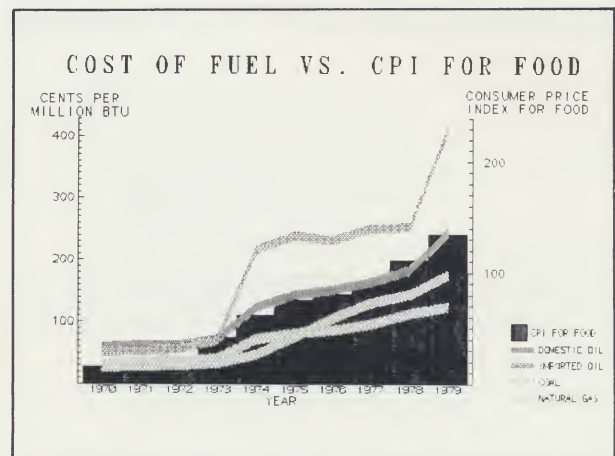


FIGURE 2

Typical Applications

Whatever the information you want to see, Abt/GRAPH can give you a perfect picture.

- ☐ **Finance:** graph revenues and expenditures, show financial trends, or do boardroom presentations. Display results from financial modeling packages or "if . . . then" analyses.
- ☐ **Marketing and Sales:** show market trends and sales activities, performance vs. goals, or market segmentation.
- ☐ **Personnel Management:** display employee characteristics, highlight training needs, or analyze salary structure.
- ☐ **Industrial Operations:** use graphs to pinpoint production problems, show patterns of distribution, or control inventory and orders.
- ☐ **Research:** display the results of statistical or engineering calculations in graphs or charts. Design your own graphic displays for R&D applications.

A Program That Talks Your Language

Abt/GRAPH works on a question-and-answer basis. It guides you step by step through the process of making a graph.

And Abt/GRAPH speaks plain English. There's no need to learn a lengthy set of computer commands or refer to complicated manuals. All the information you need appears on the terminal.

Each time you have a choice regarding a feature of the graph you are drawing, Abt/GRAPH prompts you with a menu of available options. If you don't want to choose, Abt/GRAPH selects standard options and generates a well designed graph.

Abt/GRAPH QUERY	User Response
THE FOLLOWING KINDS OF GRAPHS MAY BE MADE	
CODE DESCRIPTION	
VBR3 VERT BARS -3D	
VBR2 VERT BARS -2D	
LIN2 LIN GRAPH -2D	
V2L2 LIN & VERT BARS -2D	
HBR3 HORZ BARS -3D	
VLN2 LIN VERT -2D	
H2L2 LIN & HORZ BARS -2D	
PIE PIES -2D	
DRAW TEXT & SKETCH ONLY	
TYPE THE CODE FOR THE KIND YOU WANT	VBR2
# OF TITLE LINES	2
LINE 1:	COMPANY SALES FOR 1980
LINE 2:	BY QUARTER
LABEL FOR X AXIS	QUARTER
NUMBER OF X AXIS INTERVALS	4
LABEL FOR X INTERVAL 1	FIRST
LABEL FOR X INTERVAL 2	SECOND
LABEL FOR X INTERVAL 3	THIRD
LABEL FOR X INTERVAL 4	FOURTH
LABEL FOR BAR AXIS	SALES (\$1,000s)
DO YOU WANT LAYERS	NO
DO YOU WANT CLUSTERS	NO
THE FOLLOWING QUESTIONS ARE ABOUT YOUR BAR DATA	
ARE YOUR DATA IN A FILE	NO
VALUE FOR FIRST	482
VALUE FOR SECOND	527
VALUE FOR THIRD	580
VALUE FOR FOURTH	625
DO YOU WANT TO USE THE OPTIONS	NO
IS THIS A COLOR GRAPH	NO
DO YOU WANT TO CHOOSE YOUR OWN COLORS OR PATTERNS	NO

FIGURE 3

This easy Abt/GRAPH session . . .

User-Selected Features

- ☐ Put your graph anywhere on the page.
- ☐ Draw several graphs on the same page.
- ☐ Control axis lengths and tick marks separately.
- ☐ Choose from a wide range of type styles to title and label the graph.
- ☐ Titles can be centered or left or right justified, automatically.
- ☐ Place titles, notes, and labels anywhere on the page, using the interactive locator feature.
- ☐ Produce layered or clustered bar charts.

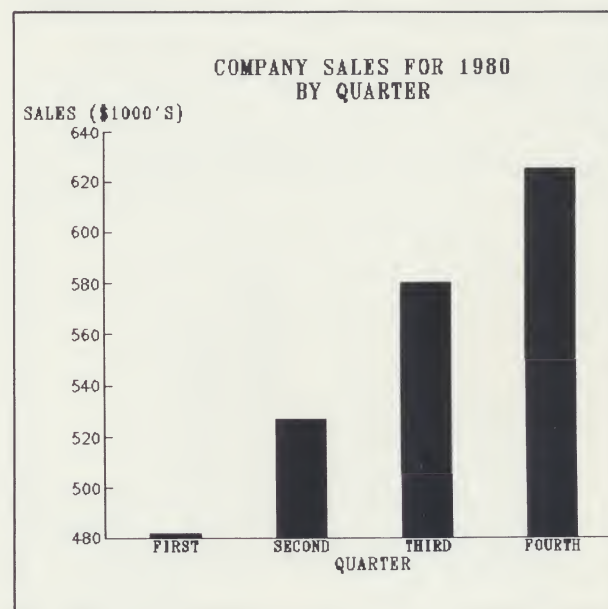


FIGURE 4

. . . produced this basic chart.

- ☐ Erase lines, text, or panels anywhere on the page.
- ☐ Draw bars-within-bars or offset bars for special emphasis.
- ☐ For 3D bar graphs, you have separate control over tilt, spin, and skew, so you always see the data as you like it.
- ☐ Allow automatic data scaling, or set graph limits yourself.
- ☐ Work from a large selection of colors.
- ☐ In black and white or color, choose from many pre-set shading patterns, or design your own.
- ☐ Fill a page with symbols and text.
Abt/GRAPH has special DRAW commands for creating your own design.
- ☐ Change graph type (e.g., go from vertical to horizontal bars) with a single command. No need to reenter your data.
- ☐ Abt/GRAPH automatically saves your dialogue with the program, making it easier to resume an interrupted session.
- ☐ Use the command file save feature to create your own library of chart designs. When you have new data, simply call up the old command file and make the new graph in minutes.
- ☐ Changes to the graph can be made either at the pre-draw or the post-draw stage, so you always get the look you want.
- ☐ Use the CAPTURE command to save device-independent graphics instructions; redraws are even faster with this feature.
- ☐ Abt/GRAPH runs in batch mode too, and you can use the interactive portion of the program to prepare batch files.

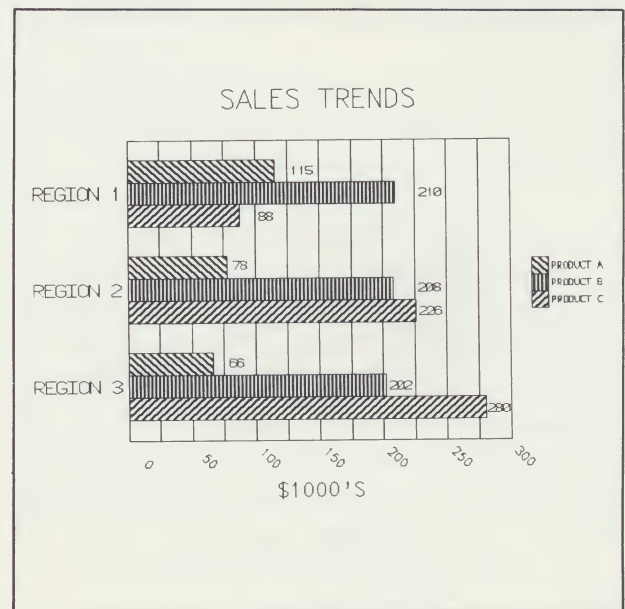


FIGURE 5

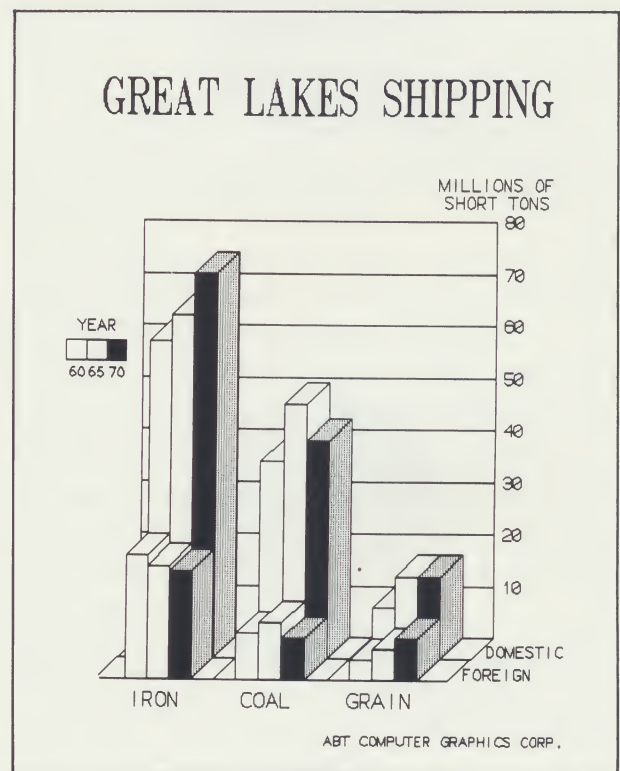


FIGURE 6

A Wide Range of Output Devices

You can use Abt/GRAPH with any Tektronix 4010 or 4020 Series display terminal or the 4662 or 4663 plotters.

We also support the AED 512 terminal, Houston Instruments and Cal Comp plotters, the III FR80 system, and the Applicon ink jet plotter. Drivers for IBM, Hewlett-Packard, Chromatics, Ramtek, and other devices are under development.

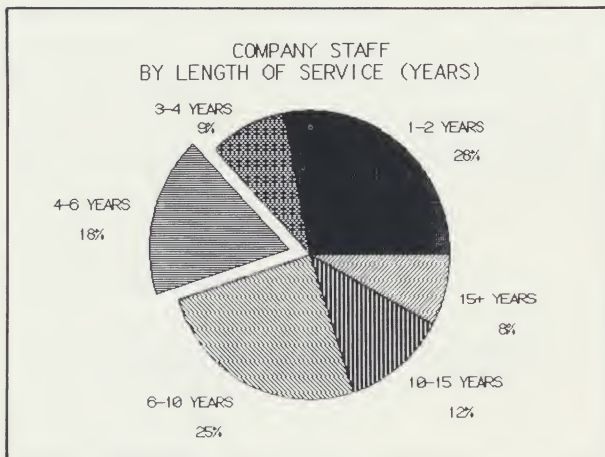


FIGURE 7

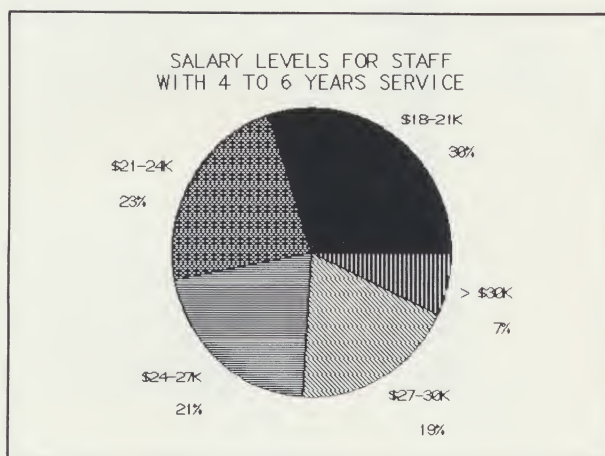


FIGURE 8

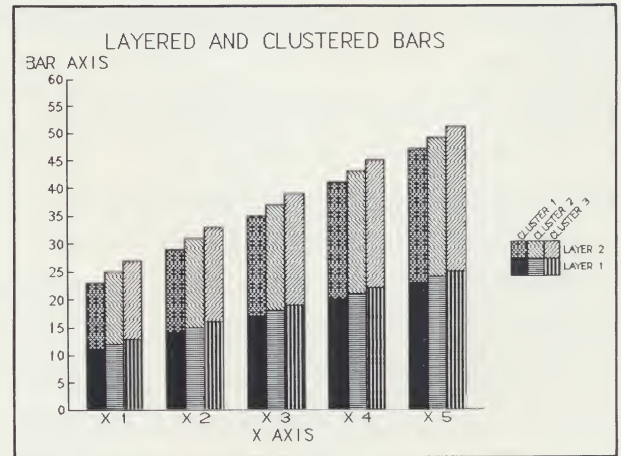


FIGURE 9

Training and Support

Abt/GRAPH is fully documented. New users of the software receive copies of the User's Manual with step-by-step instructions and extensive illustrations. A pocket guide with a brief summary of commands is also available.

Additional training for individuals or groups is available. Technical staff from Abt Computer Graphics are on call to answer any users' questions.

**For Additional Information,
Contact:**

Abt Computer Graphics Corporation
55 Wheeler Street
Cambridge, MA 02138
Telephone (617) 661-2400

Abt/MAPTM *Business Graphics Software That Means Business*

Business Maps in Minutes

Using Abt/MAP, you can easily create high-impact map displays of any geographically coded business data.

Abt/MAP can draw an outline map of any geography: states, regions, media market areas, counties, Census areas, Zip code areas, cities and towns, or special territories unique to your own business.

Then you can shade or color individual areas on the map to display your data. Illustrate company financial data, demographic data, sales and marketing plans or performance, media data, etc.

Abt/MAP also places symbols or text anywhere on the map. You can draw line network maps to show highway systems or sales routes. You can put more than one variable on the same map to show patterns and trends. You can even overlay one map on another for dramatic comparisons.

Optional features provide full control of business mapping in a simple, interactive mode.

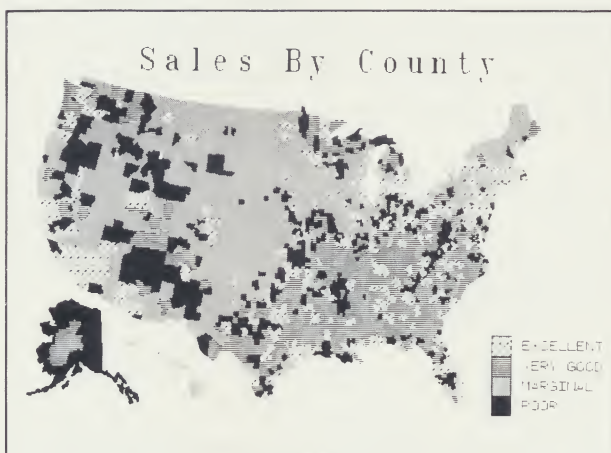


FIGURE 1

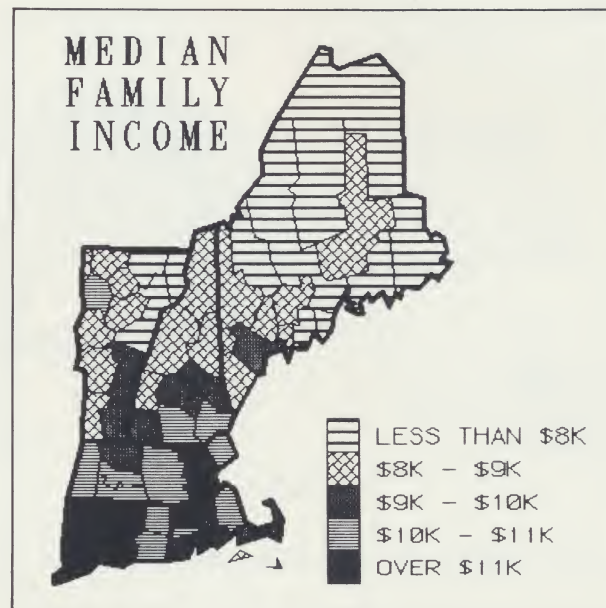


FIGURE 2

A New Dimension For Your Data

Abt/MAP makes business data come alive.

- ☐ **Marketing and Sales:** map your sales territories, plot marketing strategy, and see market trends fast.
- ☐ **Corporate Finance:** map financial indicators for all operating divisions. Watch trends emerge and plot them against national economic data.
- ☐ **Facility Location:** find sites for new development or plan new distribution routes.
- ☐ **Operations Management:** illustrate resource stocks and flows, control inventory, map orders vs. backlog, and show data for each product.
- ☐ **Personnel:** show the distribution of skilled staff, plan relocation efforts, and control the deployment of your resources.
- ☐ **Media Planning:** lay out your media plans to match area demographics and market potential.

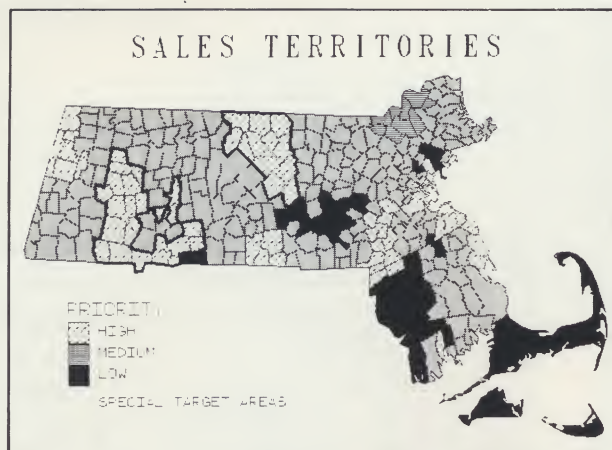


FIGURE 3

The ABC's of Business Maps

With Abt/MAP, you use a simple command language to interactively draw the map you want.

First you specify a *geographic boundary file* for the geography you wish to use (e.g., Zip code areas, states, or counties). Next you call up the *attribute data* to be mapped (e.g., sales, revenues, or profits). Attribute data can come from existing computer files or be entered right at the keyboard.

Once you have set a few index values, Abt/MAP takes care of coloring or shading the map. This is *data-driven mapping*.

Only a few commands are necessary to draw a standard color patch map of the United States (Fig. 1). Then you can use Abt/MAP's versatility to create a map display that meets your needs precisely.

Solve Your Mapping Problems

Do you need to **highlight** special areas? Abt/MAP lets you outline or change the shading of any combination of geographic

subunits (Fig. 3). You can split off parts of the U.S. or groups of counties, for example, change their scale, or move them to any place on the page (Fig. 4).

Do you need to **zoom-in** on an area of special importance? Abt/MAP automatically rescales the map display and redraws the map to your specifications. No need for time-consuming calculations or any special knowledge of cartography.

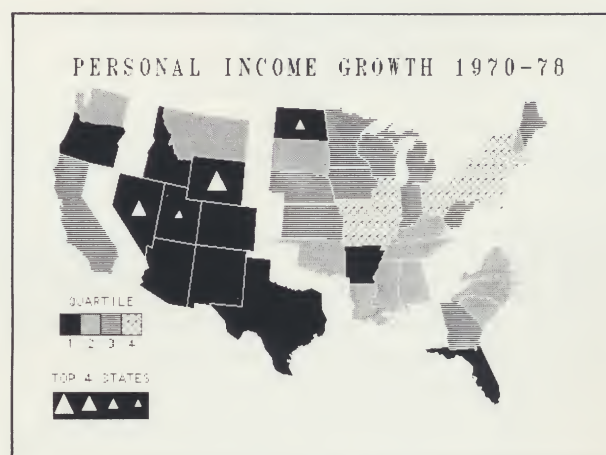


FIGURE 4

Do you need to map two variables together? **Multi-variable** mapping is simple with Abt/MAP. You specify different shading patterns for the different combinations of variables, and Abt/MAP shows you the picture (Fig. 6).

Using Abt/MAP, it's easy to **overlay** different boundary systems. You can display Zip code data and show patterns for counties and states at the same time.

An interactive locator feature lets you place text or symbols anywhere on a map. You can put special comments right where you want them, or design your own sets of symbols to illustrate complex business decisions.

Powerful Mapping Features

- ☐ Several map formats: polygon, point-symbol, or line-network.
- ☐ Draw multiple maps on a single page.
- ☐ From a set of 64 colors and 40 patterns, a choice of 8 colors and 120 color/pattern combinations.
- ☐ Titles, labels, and notes can be placed anywhere on the page, with full control of character fonts, text size, text color, and background paneling.

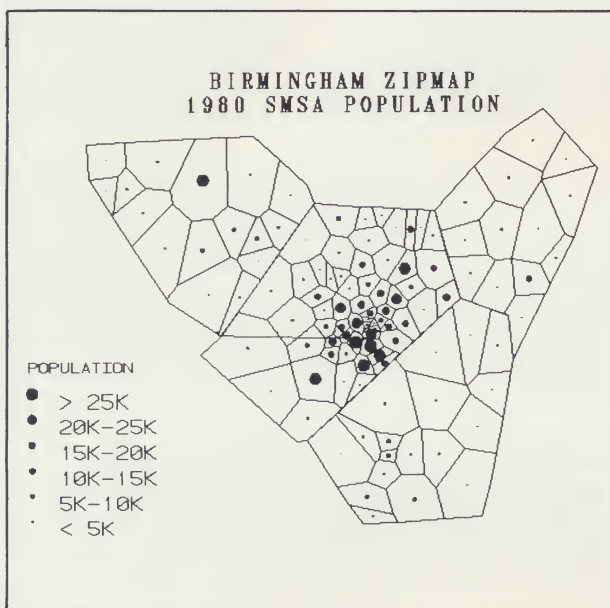


FIGURE 5

- ☐ Select from a wide variety of text fonts, including boldface, shaded, and special character styles. Create your own logo or special symbols.
- ☐ Text can be placed either by specifying x-y coordinates or by using an interactive locator.
- ☐ Automatic labelling of areas (with state names, census tract numbers, etc.).
- ☐ Place bar or pie charts within map areas to show data values. Use pies to show market share by state, for example.

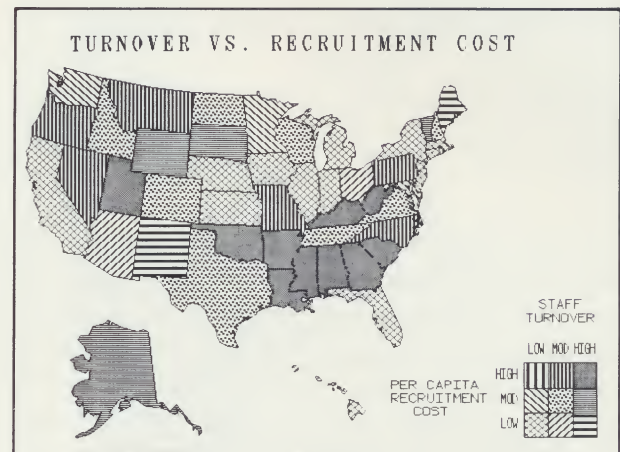


FIGURE 6

- ☐ Other symbols can be placed in areas, with full user control over symbol color and size.
- ☐ Place one or more keys anywhere on a map, with control of key sequence, orientation, rotation, etc.
- ☐ Create overlays to show different boundary systems on the same map, to superimpose a road network on an area geography, etc.
- ☐ Create custom boundary files using the digitizing feature.
- ☐ Ease of use
 - Standard default values for all optional commands so basic maps can be drawn with only a few design decisions.
 - Storage and retrieval commands let you save and recreate any map or subpart of a map.
 - Extensive error trapping and diagnosis is built-in, making Abt/MAP's command language easy for the novice to use. Commands can generally be given in any sequence, and simple keywords are easy to remember.
 - Abt/MAP runs in either interactive or batch mode.

A Wide Range of Output Devices

You can use Abt/MAP with any Tektronix 4010 or 4020 Series display terminal, or the 4662 or 4663 plotters.

We also support the AED 512 terminal, Houston Instruments and Cal Comp plotters, the III FR80 system, and the Applicon ink jet plotter. Drivers for IBM, Hewlett-Packard, Chromatics, Ramtek, and other devices are under development.

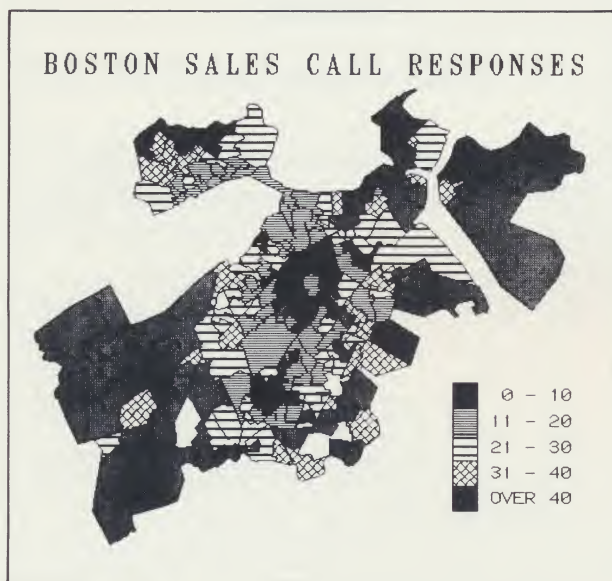


FIGURE 7

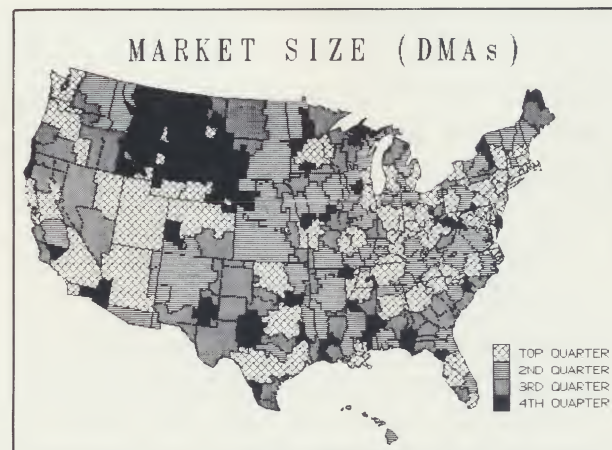


FIGURE 8

Training and Support

Abt/MAP is fully documented. New users of the software receive copies of the User's Manual with step-by-step instructions and extensive illustrations. A pocket guide with a brief summary of commands is also available.

Additional training for individuals or groups is available. Technical staff from Abt Computer Graphics are on call to answer any users' questions.

For Additional Information,
Contact:

Abt Computer Graphics Corporation
55 Wheeler Street
Cambridge, MA 02138
Telephone (617) 661-2400

Abt/GRAPH™ *Business Graphics Software That Means Business*

Business Graphics Made Easy

Abt/GRAPH lets any businessperson make quality graphs and charts in minutes.

Using a simple question-and-answer prompting system, you can sit down with Abt/GRAPH and quickly prepare a presentation, update your market information, or illustrate complex financial data.

Abt/GRAPH draws bar charts in two or three dimensions, line graphs, bar-and-line charts, or pie charts. You can combine these formats, or switch from one to another as needed. Control color selection or draw in black and white.

You can also use Abt/GRAPH to design your charts any way you want them, since this system gives you control over a long list of optional features.

Abt/GRAPH runs interactively or in batch mode. You can enter your data directly from the keyboard or from computer files, and this software can be coupled to your own management information system.

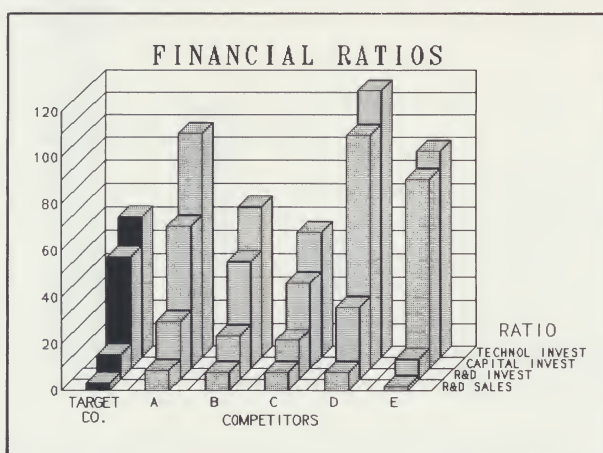


FIGURE 1

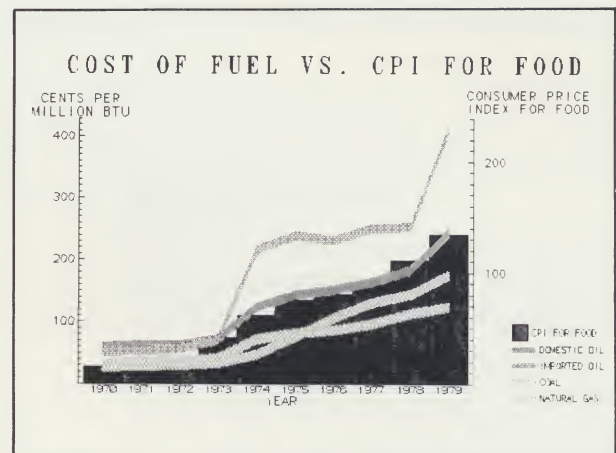


FIGURE 2

Typical Applications

Whatever the information you want to see, Abt/GRAPH can give you a perfect picture.

- ☐ **Finance:** graph revenues and expenditures, show financial trends, or do boardroom presentations. Display results from financial modeling packages or "if . . . then" analyses.
- ☐ **Marketing and Sales:** show market trends and sales activities, performance vs. goals, or market segmentation.
- ☐ **Personnel Management:** display employee characteristics, highlight training needs, or analyze salary structure.
- ☐ **Industrial Operations:** use graphs to pinpoint production problems, show patterns of distribution, or control inventory and orders.
- ☐ **Research:** display the results of statistical or engineering calculations in graphs or charts. Design your own graphic displays for R&D applications.

A Program That Talks Your Language

Abt/GRAPH works on a question-and-answer basis. It guides you step by step through the process of making a graph.

And Abt/GRAPH speaks plain English. There's no need to learn a lengthy set of computer commands or refer to complicated manuals. All the information you need appears on the terminal.

Each time you have a choice regarding a feature of the graph you are drawing, Abt/GRAPH prompts you with a menu of available options. If you don't want to choose, Abt/GRAPH selects standard options and generates a well designed graph.

Abt/GRAPH QUERY	User Response
THE FOLLOWING KINDS OF GRAPHS MAY BE MADE	
CODE DESCRIPTION	
VBR3 VERT BARS -3D	
VBR2 VERT BARS -2D	
LIN2 LIN GRAPH -2D	
V2L2 LIN & VERT BARS -2D	
HBR3 HORZ BARS -3D	
VLN2 LIN VERT -2D	
H2L2 LIN & HORZ BARS -2D	
PIE PIES -2D	
DRAW TEXT & SKETCH ONLY	
TYPE THE CODE FOR THE KIND YOU WANT	VBR2
# OF TITLE LINES	2
LINE 1:	COMPANY SALES FOR 1980
LINE 2:	BY QUARTER
LABEL FOR X AXIS	QUARTER
NUMBER OF X AXIS INTERVALS	4
LABEL FOR X INTERVAL 1	FIRST
LABEL FOR X INTERVAL 2	SECOND
LABEL FOR X INTERVAL 3	THIRD
LABEL FOR X INTERVAL 4	FOURTH
LABEL FOR BAR AXIS	SALES (\$1,000s)
DO YOU WANT LAYERS	NO
DO YOU WANT CLUSTERS	NO
THE FOLLOWING QUESTIONS ARE ABOUT YOUR BAR DATA	
ARE YOUR DATA IN A FILE	NO
VALUE FOR FIRST	482
VALUE FOR SECOND	527
VALUE FOR THIRD	580
VALUE FOR FOURTH	625
DO YOU WANT TO USE THE OPTIONS	NO
IS THIS A COLOR GRAPH	NO
DO YOU WANT TO CHOOSE YOUR OWN COLORS OR PATTERNS	NO

FIGURE 3

This easy Abt/GRAPH session . . .

User-Selected Features

- ☐ Put your graph anywhere on the page.
- ☐ Draw several graphs on the same page.
- ☐ Control axis lengths and tick marks separately.
- ☐ Choose from a wide range of type styles to title and label the graph.
- ☐ Titles can be centered or left or right justified, automatically.
- ☐ Place titles, notes, and labels anywhere on the page, using the interactive locator feature.
- ☐ Produce layered or clustered bar charts.

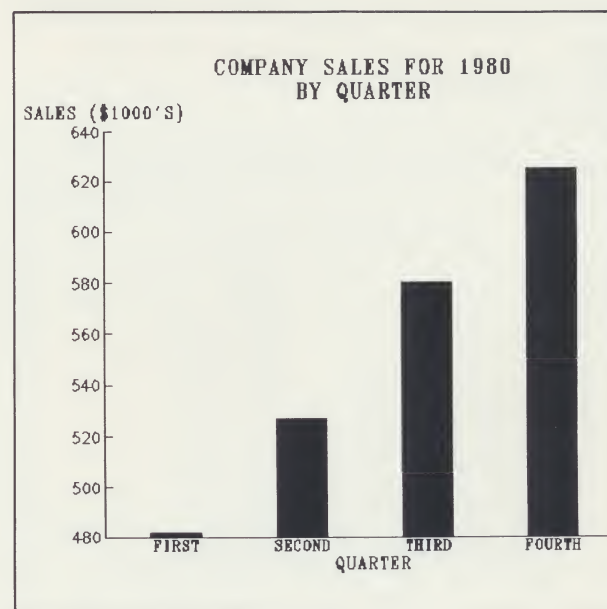


FIGURE 4

. . . produced this basic chart.

- ☐ Erase lines, text, or panels anywhere on the page.
- ☐ Draw bars-within-bars or offset bars for special emphasis.
- ☐ For 3D bar graphs, you have separate control over tilt, spin, and skew, so you always see the data as you like it.
- ☐ Allow automatic data scaling, or set graph limits yourself.
- ☐ Work from a large selection of colors.
- ☐ In black and white or color, choose from many pre-set shading patterns, or design your own.
- ☐ Fill a page with symbols and text.
Abt/GRAPH has special DRAW commands for creating your own design.
- ☐ Change graph type (e.g., go from vertical to horizontal bars) with a single command. No need to reenter your data.
- ☐ Abt/GRAPH automatically saves your dialogue with the program, making it easier to resume an interrupted session.
- ☐ Use the command file save feature to create your own library of chart designs. When you have new data, simply call up the old command file and make the new graph in minutes.
- ☐ Changes to the graph can be made either at the pre-draw or the post-draw stage, so you always get the look you want.
- ☐ Use the CAPTURE command to save device-independent graphics instructions; redraws are even faster with this feature.
- ☐ Abt/GRAPH runs in batch mode too, and you can use the interactive portion of the program to prepare batch files.

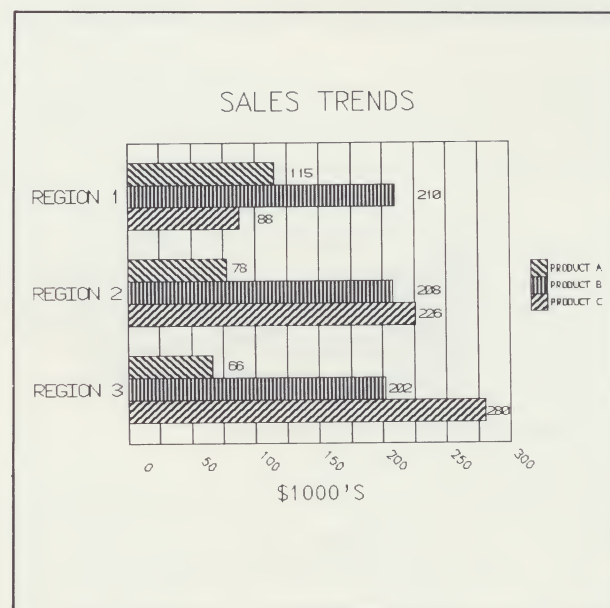


FIGURE 5

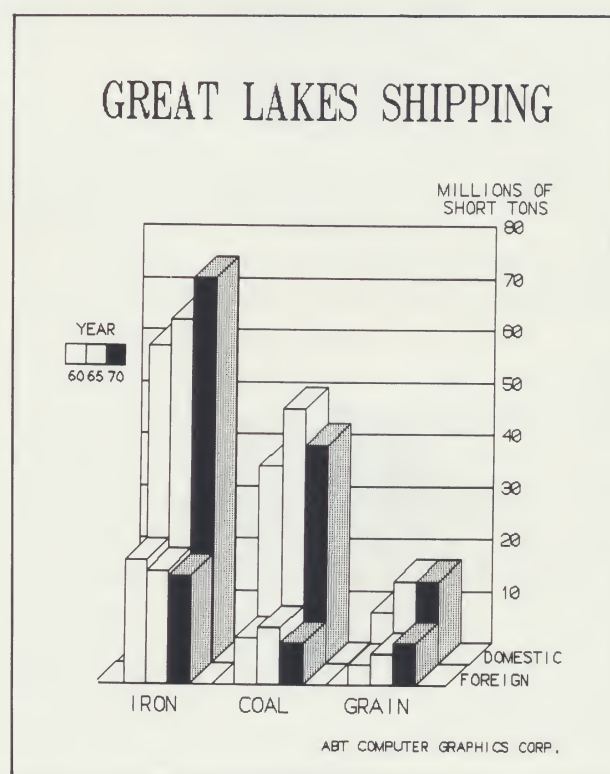


FIGURE 6

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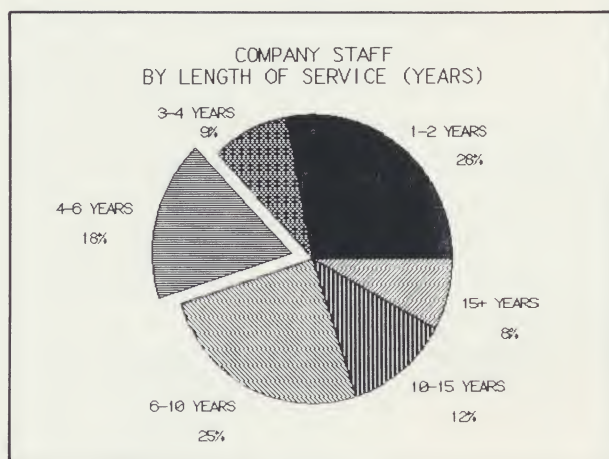


FIGURE 7

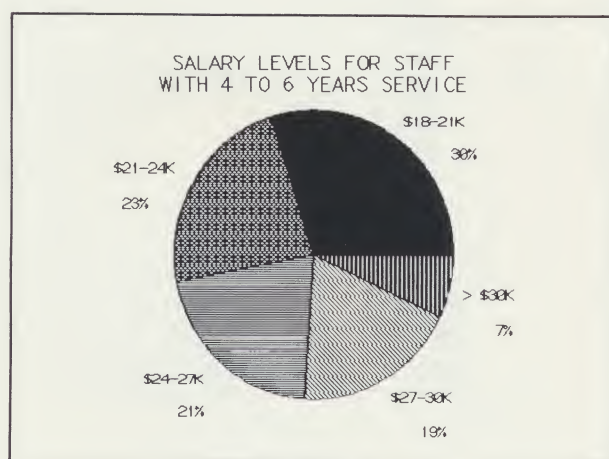


FIGURE 8

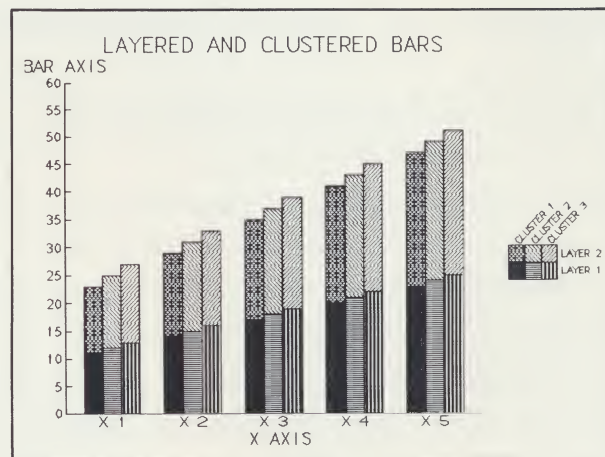


FIGURE 9

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